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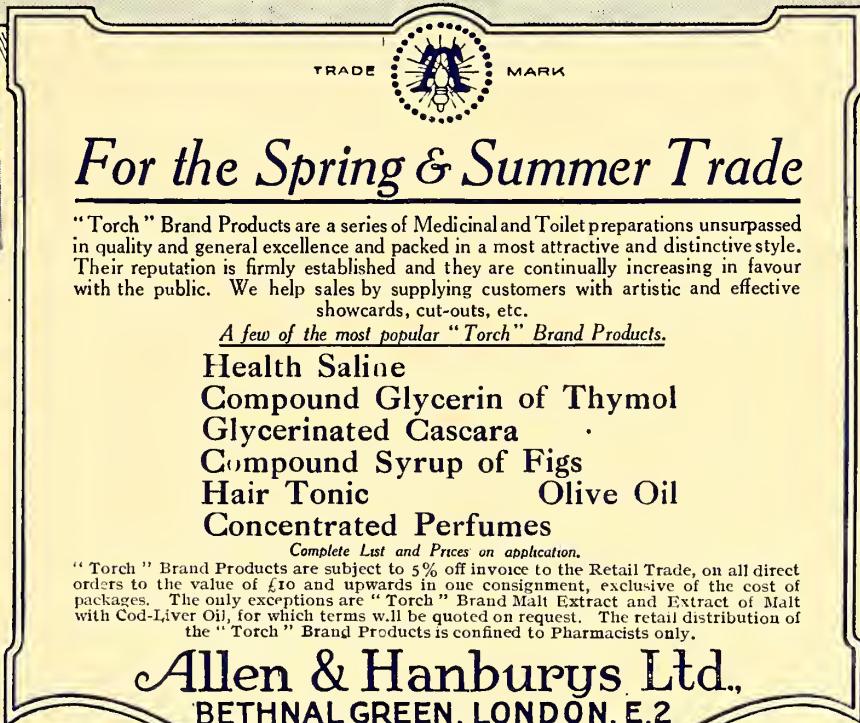
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No. 2357.

MARCH 28, 1925.

Vol. CII.

"Torch" Brand Products



"Torch" Brand Products are subject to 5% off invoice to the Retail Trade, on all direct orders to the value of £10 and upwards in one consignment, exclusive of the cost of packages. The only exceptions are "Torch" Brand Malt Extract and Extract of Malt with Cod-Liver Oil, for which terms will be quoted on request. The retail distribution of the "Torch" Brand Products is confined to Pharmacists only.

**Allen & Hanburys Ltd.,
BETHNAL GREEN, LONDON, E.2**

EST. 1715.



**P.A.T.A. Prices
A Fair Profit to
the Retailer—
A Fair Price
to the Public**

Wright's Coal Tar Soap

SPECIAL OFFER FOR

WINDOW DISPLAYS

ON APPLICATION

**WRIGHT'S EFFERVESCENT
FRUIT SALINE**
and **WRIGHT'S LIVER GRANULES**
are very satisfactory preparations

Particularly palatable,
in fine pourable granules,
effervescence brisk and sustained.
The packages are designed with good taste,
and the profit is guaranteed.

Our effervescent salines and granules cover a wide range of styles and medicaments. A postal request for particulars will receive appreciative attention.

YOU CAN BUY SULPHUR TABLETS ALMOST ANYWHERE, BUT ONE HOUSE SPECIALISES IN THEM.

A good Sulphur Tablet is difficult to make. Fifteen years' experience and careful observation are responsible for the excellence of our product. Because Cream of Tartar costs much

more than Icing Sugar or Sulphur, prices vary considerably.

Our price and product assure you a splendid profit and the Consumer an efficacious Tablet.

YOU CAN GET A WINDOW-SHOW ALMOST ANYWHERE TOO—BUT

producing displays that sell, is as difficult as acquiring the art of salesmanship at the counter.

Only "selling copy" is worth window space. We have a reputation for knowing how to make the Public buy.

"THE WIGGLESWORTH WAY"

Invites you to view your past Sulphur Tablet sales, as it does its own. A record achieved but a bigger to come. A closer study of our product, price and packing will make you optimistic.

It won't take a minute to send a P.C. now.

WIGGLESWORTH LTD.
WESTHOUGHTON
LANCS.

A Potent Force in stocking the dealer

NO progressive manufacturer or distributor can afford to overlook the opportunity offered by The (London) Evening News for a combined appeal to the Trade and to the Buying Public in London and the Southern half of England—an appeal of a magnitude unparalleled by any other evening newspaper in the world.

Apart from its intensive sale in the densely populated Metropolitan district, The Evening News embraces in its "World's Largest Evening Net Sale" practically every city, town and village within a hundred miles of London,

covering a vast territory equal to a third of the total area of England.

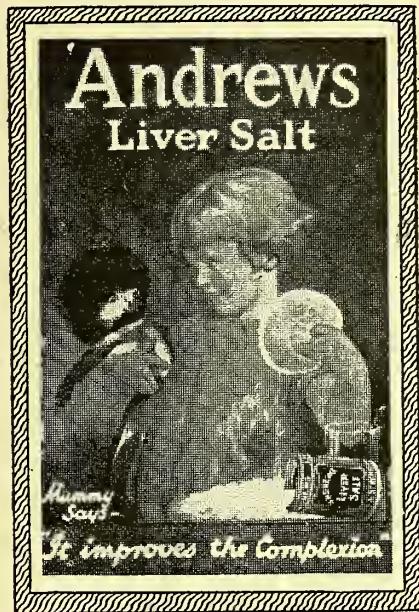
The influence of this predominant evening journal is felt as far North as Boston in Lincolnshire, as far South as Brighton in Sussex, as far East as Yarmouth in Norfolk and as far West as Yeovil in Somerset.

Equally important is the fact that The Evening News is not only effective in creating a demand from the public, but is also a potent force in influencing dealers to stock the goods advertised.

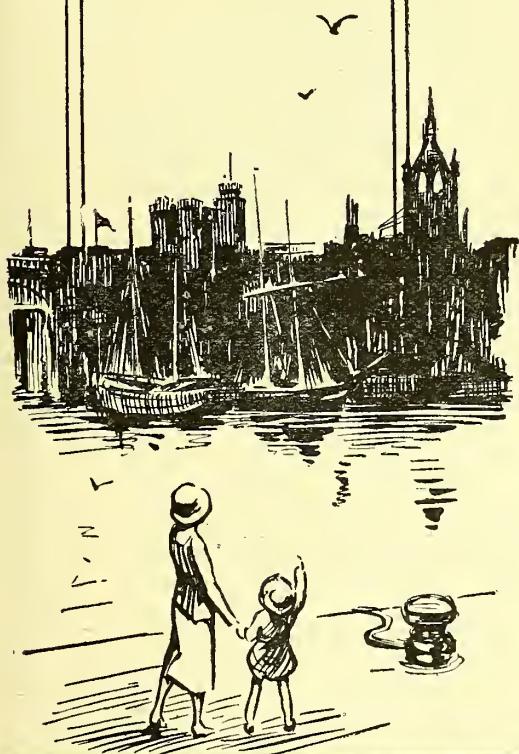
It is this responsiveness on the part of retailers and public alike that ensures the profitableness of even the most modest advertising investment in

The Evening News
(LONDON)

World's Largest Evening Net Sale



*The above is from
a photograph of
our full-colour
Poster for 1925*



*1925 will be an
outstanding year
for Andrews—*

... and we shall appreciate your co-operation to our mutual advantage

Our 1925 Advertising Campaign, with an attractive "Hocknell" Poster on the whole country's hoardings, will be bigger than ever before, and, in addition, thousands of reproductions will be shown on vans, etc., throughout the Kingdom.

Our National Press and Magazine Advertising has also been considerably extended, and this all-round increase in Advertising expenditure should make record-breaking "Andrews" sales for you in 1925.

A Special Bonus Offer

Particulars of our Special Bonus Offer, which gives the equivalent of 9/- per gross extra profit, will be sent on request to the address below.

*Andrews
Liver Salt*

The closing date of our Special Offer is April 30th, but we reserve the right to withdraw the Bonus before that date. You should, therefore, write for full details as soon as possible to ensure the handsome extra profit.

SCOTT & TURNER, LTD.,
Gallowgate - Newcastle-upon-Tyne.

NINETY YEARS AGO!

products have justly earned them a high reputation. They are worthy of your consideration. The Trade Mark below is known and recognised all over the world as a sign of high quality.

**SAFEGUARD YOUR REPUTATION BY
USING "STAFFALLENS" PRODUCTS**

BALSAMS
CONFECTIONS
DECOCTIONS
ESSENCES
ESSENTIAL OILS
EXPRESSED OILS
EXTRACTS
GLYCERINES
JUICES
LINIMENTS

LIQUORS
OINTMENTS
PERFUMES
PLASTERS
POWDERS
RESINS
SPIRITS
SYRUPS
SOAP PERFUMES
TINCTURES



THE SIGN OF QUALITY.

Samples and prices gladly sent on request.

STAFFORD ALLEN & SONS, LTD.

Telephone :
Clerkenwell 2100
(4 lines).

FINSBURY

Cowper Street

ESTABLISHED 1833

Telegrams :
"Staffalens, Finsquare,
London."

LONDON, E.C.2

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VULPRO

THIS is the Registered Trade Mark of the New Rubber made by a patent process from Vulcanised Latex. In this space we shall deal, month by month, with the merits of various articles manufactured by this wonderful new process.

VULPRO D.P. WATERPROOF SHEETING 41 inches WIDE.

STERILISABLE—Urine Resistant—ODOURLESS—VERY DURABLE

Your customers will be delighted with this new sheeting. Ask your dealer to show you a sample.

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John Weiss & Son, Ltd.	The Surgical Mfg. Co., Ltd.
The Medical Supply Association, Ltd.	etc., etc.

WHOLESALE ENQUIRIES TO

VULTEX PRODUCTS, Limited

GENERAL BUILDINGS :: :: ALDWYCH, W.C.2

AGENCIES FOR VARIOUS DISTRICTS STILL VACANT.

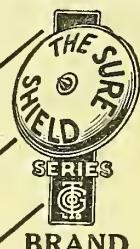
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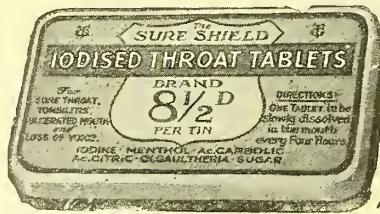
LONDON DEPOT:
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MINORIES, E.1

Telephone: AVENUE 6255.

THE SURE SHIELD



IODISED THROAT TABLETS



8 1/2d. Tins

5/6 per doz. 63/- per gross

1s. 3d. Tins

9/6 per doz.

108/- per gross

THOS. GUEST & CO., LTD., CARRUTHERS STREET,
ANCOATS, MANCHESTER.



BY APPOINTMENT
TO H.M. THE KING

All British

HERE is no better soap than the British, and there is no finer British soap than Vinolia. It is not necessary, therefore, to go abroad for any soaps, shaving sticks, toilet preparations, or even perfumes.

If you recommend Vinolia your customers will be completely satisfied. They will not only thank you, but will also tell their friends, and so enhance your prestige and create more goodwill.

Vinolia

PREMIER SOAP

First for Fragrance—Premier for Purity

In decorated boxes of	-	-	-	3 tablets
In display boxes of	-	-	-	36 "
In wood boxes of	-	-	-	144 "

Best terms profit on outlay on wood boxes, 43%

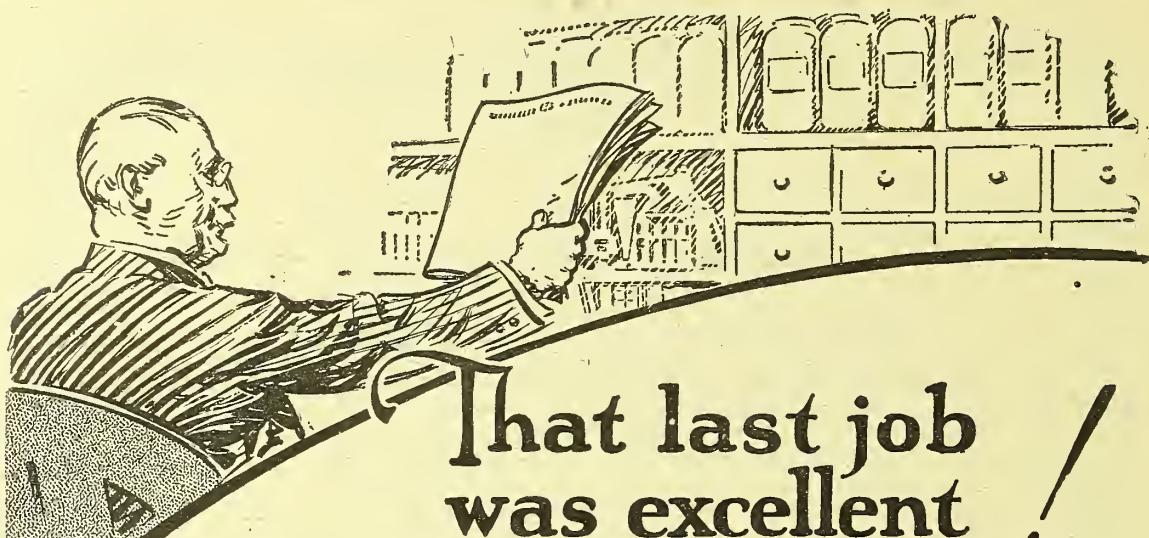
VINOLIA CO. LTD.

Manufacturers of All-British Shaving Soaps
and Toilet Preparations

By Appointment to H.M. the King, H.R.H. the Prince of Wales, etc.

LEVER HOUSE, BLACKFRIARS, LONDON, E.C.4

Works: Bebington, Cheshire



That last job was excellent !

Well-planned. Well-printed. Splendid Results

How satisfactory for all concerned.

YOUR Printing is your best salesman. Well printed it will act like a good salesman and interest your prospect to the buying point. It is a question of attention to detail that makes printing as well as it should be.

Knowledge and long experience of Chemists', Store, and Medical Printing is the secret of our success with the Trade. We are specialists in printing Medical Labels, Cartons, Price Lists, Catalogues, Show Cards, in fact, all advertising matter specially suitable for the Chemists' and Allied Trades.

We shall be pleased to receive your enquiries and give advice and quotations on application.

**Thomas Waide
& Sons Ltd**
Colour & General Printers
**Kirkstall Road
Leeds**

Telegraphic Address: "CRESSWELL, HOLB., LONDON."

Telephone: No. 1432 Holborn.

THE SPONGE HOUSE

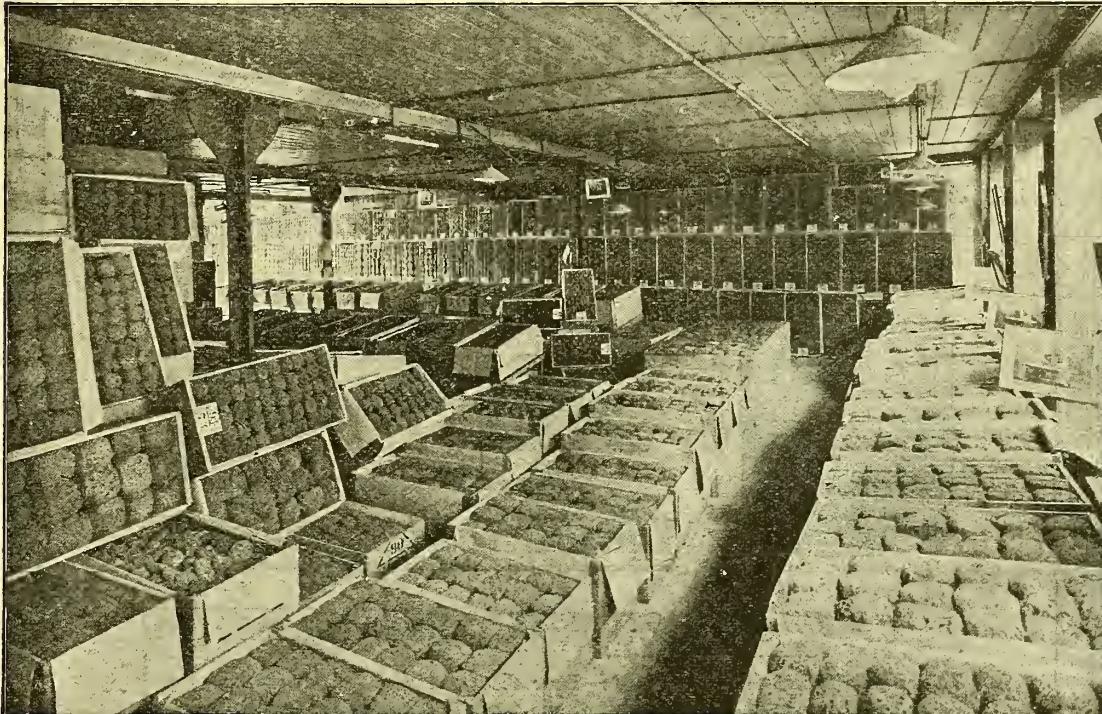
INTERNATIONAL SPONGE IMPORTERS, LIMITED.

CRESSWELL BROTHERS BRANCH

Sponge Importers, Exporters and Merchants, and Chamois Leather Dressers,

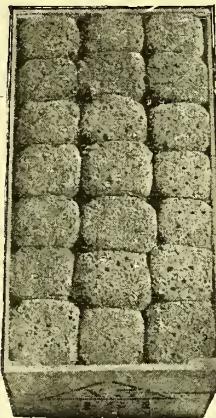
18 and 19 RED LION SQUARE (New Warehouses and Steam Bleacheries, 45½ EAGLE STREET) LONDON, W.C.

WITH THE LARGEST STOCKS OF ALL SPONGES IMPORTED DIRECT FROM THE FISHERIES AT LOWEST PRICES.



BUYERS ARE INVITED TO CALL AND INSPECT OUR LARGE AND VARIED STOCKS, AND THEY WILL CONVINCE THEMSELVES THAT THEY ARE DEALING IN THE "CHEAPEST MARKET."

UNBLEACHED MEDITERRANEAN SPONGES in Original Cases



HONEYCOMB.

Extra Choice. Finest Texture and Shape. The Pick of all the Fisheries.

Pieces in Case.	Average Price per Piece.	
300 Toilet at	9d.	270 at
250 " " 1/-	180 "	... 9d.
200 " " 1/6	170 "	... 1/-
160 " " 2/-	160 "	... 1/6
140 " " 2/6	140 "	... 2/-
120 " " 3/-	120 "	... 2/6
100 " " 3/6	110 "	... 3/-
90 Medium Bath 4/6	90 "	... 3/6
80 " " 5/6	80 "	... 4/-
72 " " 6/6	75 "	... 4/6
60 " " 7/6	70 "	... 5/-
45 Large " " 8/6	65 "	... 5/6
30 " " 10/6	60 "	... 6/6

HONEYCOMB.

Toilet & Bath.

Good 2nd Quality.

Pieces in Case.	Average Price per Piece.	
270 at	... 6d.	
180 "	... 9d.	
170 "	... 1/-	
160 "	... 1/6	
140 "	... 2/-	
120 "	... 2/6	
110 "	... 3/-	
80 "	... 4/-	
75 "	... 4/6	
70 "	... 5/-	
65 "	... 5/6	
60 "	... 6/6	

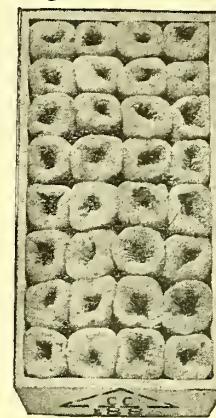
FINE TURKEY

SOLIDS.

SELECTED SHAPES.

1st Quality.

	Average Price per Case. Piece.
Nursery	200 at 1/-
Toilet	150 " 1/6
"	100 " 1/9
"	100 " 2/-
Bath	80 " 2/6
"	50 " 3/-
"	36 " 4/-
"	24 " 5/-



IMPORTANT NEW DEVELOPMENT.

SPONGES SENT TO ANY PART OF THE WORLD. PARCELS POST FREE.

The contents of the above cases will be press-packed and sent post free to Colonial and Foreign buyers within the radius of parcels post free. All that is necessary is that the sponges be placed for a short time on arrival under damp cloths, when they will assume their original size and shape. We are enabled by this method to dispatch a large quantity of sponges without incurring expense of freight to buyers. Terms 2½% Cash with Order.

LOOSE GOODS DEPARTMENT. SPONGES IN SMALL PACKAGES. Fine Turkey, Fine Egyptian and Honeycomb. In 1st, 2nd and 3rd Qualities. Bleached or unbleached (state which in ordering). On strings of 1 dozen pieces, or loose in bags. At per doz., 2s., 3s., 4s., 6s., 9s., 12s., 15s., 18s., 24s., 30s., 36s., 42s., 48s., 54s., 60s., 66s., 72s. Bleached Cuban. At per String or Dozen. Wool, Grass, Yellow and Fine. 1s., 2s., 3s., 4s., 6s., 9s., 12s., 15s., 18s., 24s.



AN ENTIRELY NEW INVENTION



Cleans the hands WITHOUT the use of SOAP, WATER or TOWEL
Contains NO SOAP, GRIT or ALKALI

“SKLEEN”

(Patent applied for)

TRADE MARK

THE GREAT HAND CLEANSER

A BOON TO MOTORISTS

THE DIRECTIONS FOR USE ARE:—Pour about a half-teaspoonful into the palm of one hand, rub the hands together until nearly dry 

In screw-capped tins, enamelled in colours, and retailing at 1/- each.

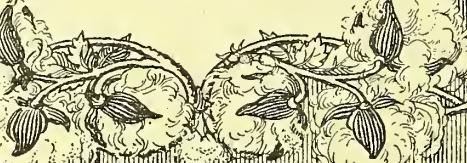
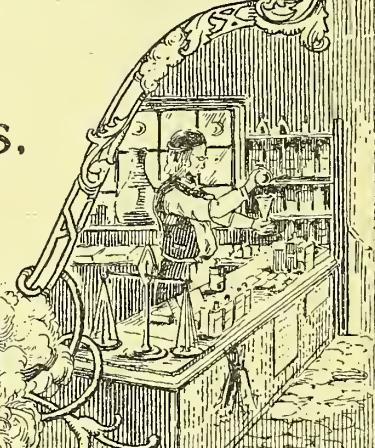
8/6 per doz., 6 doz. 8/3, gross 8/- net
 Display showcard in colours supplied.

N.B.—With orders placed during April we are sending Free $\frac{1}{2}$ doz. sample tins with every dozen ordered.

THE
“SKLEEN”
 RUBS OFF
 AND THE
 DIRT COMES
 WITH IT

REGD
TRADE
MARK

Southall Bros.
 & Barclay Ltd
 BIRMINGHAM.



Maw's Page



Meritor Shavers Make Satisfied Customers

Most men have to buy a shaving brush at some time or other, and in view of the disastrous consequences which have been traced to the use of inferior brushes they welcome expert advice on the subject. Here, then, are opportunities for selling Meritor Shaving Brushes. Every pharmacist knows he can confidently recommend them. The guarantee which accompanies all Meritor shavers is a guarantee that they are sterilised, will wear well and are British Made throughout.

No pharmacist can afford to be without Meritor Shaving Brushes. By displaying them and recommending them you will be selling brushes which will satisfy your customers and cannot fail to bring repeat business.

*Remember Meritor Shaving Brushes
are sold only by pharmacists and
carry a profit of 50 per cent. on cost.*

S. Maw, Son & Sons, Ltd.,
Aldersgate St., London,
and Barnet.

Telephone:
No. (New)
City
7891-3

Telegrams:
Eleven
Cent
London

TRADE

MARK

Cables:
Eleven
London

Code:
A.B.C.
4th & 5th
Edition



REUDEL BATH SALTRATES AND ALKIA SALTRATES

SPECIAL WINDOW-DISPLAY BONUS TERMS TO RETAIL CHEMISTS

STANDARD CASES packed only as explained below. **NO EXCEPTIONS CAN BE MADE**

Guaranteed effective for 30 days from March 28th, 1925. Thereafter subject to cancellation without notice.

Symbol	Contents	List Price	Bonus	Value
HALF-GROSS ASSORTED CASES.				
A	{ 3 doz. small (2/-) R.B.S. } 1 " " large (3/3) Alkia	£7 10	{ 1 pkts. small R.B.S. } 2 pkts. large "	11/9
B	{ 4 doz. small (2/-) R.B.S. } 1 " " large (3/3) Alkia	£6 18	{ 2 pkts. small R.B.S. } 1 pkt. large "	10/6
C	{ 4 doz. small (2/-) R.B.S. } 2 " " large (3/3) "	£6 18	{ 3 pkts. small R.B.S. } 1 pkt. large "	9/3
3 DOZEN ASSORTED CASES.				
G	{ 2 doz. small (2/-) R.B.S. } 1/2 " " large (3/3) Alkia	£3 9	{ 2 pkts. small R.B.S. }	4/-

Symbol	Contents	List Price	Bonus	Value
HALF-GROSS STRAIGHT CASES.				
D	6 doz. small (2/-) R.B.S.	£5 14	4 pkts. small R.B.S.	8/-
E	6 " " large (3/3) Alkia	£9 6	4 " " large "	13/-
F	6 " " Alkia	£9 6	4 bottles Alkia	13/-
Note.—On GROSS ORDERS consisting of ANY TWO OF THE ABOVE HALF GROSS STANDARD CASES the following ADDITIONAL free goods will be supplied:—1 pkt. large (3/3) R.B.S.; 1 bot. Alkia.				
3 DOZEN STRAIGHT CASES.				
H	3 doz. small (2/-) R.B.S.	£2 17	1 pkt. large R.B.S.	3/3
J	3 " " large (3/3) "	£4 13	1 pkt. large R.B.S.	5/3
K	3 doz. Alkia	£4 13	{ 1 " " small 1 bottle Alkia 1 pkt. small R.B.S. }	5/3

As consideration for the above Bonus allowances we require only—

- That in respect of Standard Cases "A" to "F" inclusive you display in your window for a fortnight the Showcards accompanying the order, also at least one dozen of our products;
- That in respect of Standard Cases "G" to "K" inclusive you give a similar Window OR COUNTER Display of our products.

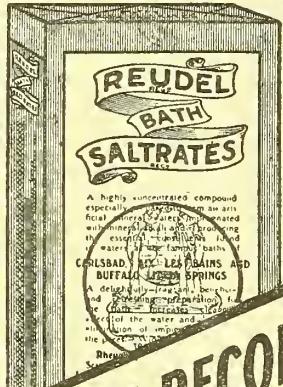
WINDOW DISPLAY

REUDEL BATH SALTRATES

The best selling and most fragrant, refreshing and all-round satisfactory preparation for the Bath and for General Toilet purposes. Especially recommended in cases of FOOT TROUBLES, RHEUMATIC PAINS, STIFFNESS, STRAINS, SPRAINS, etc. Always Extensively Advertised.

SELLS at 2/-
and 3/3
P.A.T.A.

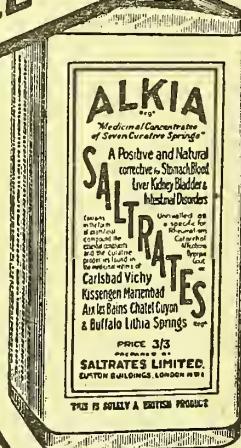
YOU CAN RECOMMEND THEM WITH FULL CONFIDENCE



**REUDEL
BATH
SALTRATES**

A highly concentrated compound especially designed for an aromatic bath. It is recommended without fail for all cases of the following:—Carlsbad, Baden, Leibnitz, Baden, Buffalo, Lourdes, etc. A deeply fragrant, beneficial preparation for the bath and a valuable addition to the water and a means of improving the bath.

REUDEL
SALTRATES
LTD.
EUSTON BUILDINGS, LONDON, N.W.1.



**ALKIA
SALTRATES**

A Positive and Natural corrective to Rheumatism, Liver Kidney & Bladder & Inflamed Disorders. A widely advertised and quick selling Saline for LIVER, KIDNEY and RHEUMATIC DISORDERS, GOUT, etc. Represents the maximum of possible efficiency in a Saline and the best value for the money. There is no trace of any salty, sour or otherwise unpleasant taste.

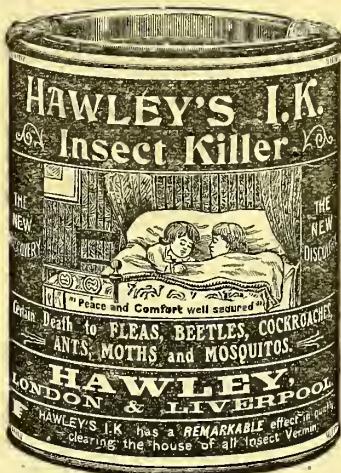
ALKIA
SALTRATES
LTD.
EUSTON BUILDINGS, LONDON, N.W.1.

SELLS at 3/3 P.A.T.A.

SALTRATES LIMITED, EUSTON BUILDINGS, LONDON, N.W.1.



"SUSAN" FINDS I.K.
A SURE KILLER.



KILLS ALL
INSECT PESTS

When you lay in your season's stock of INSECTICIDE
see that it is one that does its work.

HAWLEY'S I.K. not only does the best work, but
it gives a very fine profit.

71% on Cost if you take £5 worth

		Cost	Sells at
12 doz.	4d. at 2/8	.. £1 12 0	£2 8 0
1 "	" Free	.. —	0 4 0
10 "	8d. at 5/4	2 13 4	4 0 0
5/6ths "	" Free	.. —	0 6 8
2 "	1/3 at 10/-	.. 1 0 0	1 10 0
1/6th "	" Free	.. —	0 2 6
		5 5 4	8 11 2
Less 5% discount		.. 0 5 3	5 0 1
		£5 0 1	£3 11 1 Profit

A Super-realistic Beetle Showcard supplied.
I.K. Bellows containing Powder, 7/- per dozen.

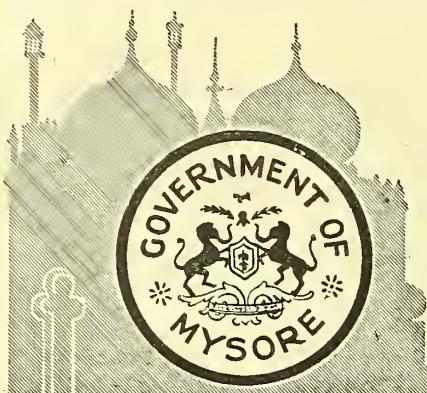
Evans

EVANS SONS LESCHER & WEBB, LTD.

LIVERPOOL

New York

LONDON



*Mysore Government Seal
is your guarantee that
the Oil is the finest in
the World*

EAST INDIAN SANDALWOOD OIL

Sole European Distributors :
ESSENFLOUR PRODUCTS LTD.

"Perfume House" 6, 7 & 8 BEAUCHAMP STREET, LONDON, E.C.1

Telephone: HOLBORN 2499, 6214, 6215 (3 lines).

Telegrams: "EKDUM, LONDON."

HERE IS THE LINE you must surely have been looking for in order to **increase your profits** and meet your customers' ever-increasing demand.

"GALJADO" SCURF LOTION for all SCALP and HAIR TROUBLES.

Small size, 10/6 per dozen.	S.P. 1/6 per bottle.
Standard " 16/6 "	S.P. 2/6 "
Large " 33/- "	S.P. 4/6 "

"GALJADO" TOILET PREPARATIONS are universally renowned, and are obtainable of all Wholesalers or direct. Current price lists sent free on application to

THE GALJADO PERFUMERY CO., Ltd.
93 Worship Street, LONDON, E.C.2.

DIRECT EXPORTATION

from France of all first-class brands of

PERFUMES

Pharmaceutical Products and also the Famous

CADHUIL SOAP

Laboratoires CADHUIL

20 Rue de Paradis, PARIS (Xeme)

DODGE & OLCOTT CO.,

20 MARK LANE,
LONDON, E.C.3.

THE "D & O" BRAND

is the "Standard of Quality" for

OILS of BAY, CEDARWOOD, PATCHOULI, PEPPERMINT,
SASSAFRAS, ETC.

BALSAMS of Copaiba, Peru, Tolu.
TONKA BEANS, Angosturas.

Telegrams—
"EGDARF, FEN, LONDON."

Phone—
ROYAL 3843.

E. SACHSSE & CO.

LEIPZIG GERMANY

Manufacturers & Distillers of
**SESQUI AND TERPENE FREE
 AND
 B.P. ESSENTIAL OILS
 FLOWER OILS, SYNTHETICS
 AND
 ORRIS CONCRETE, LIQUID
 AND RESINOID.**

WRITE FOR PRICE LIST AND SAMPLES.

Sole Agents for U.K.:

T. HARRISON & CO.
 BURNLEY HOUSE, WILLESDEN, N.W.10.
 IMPORTERS OF
 ESSENTIAL OILS AND SYNTHETICS.

STOCKS IN LONDON.

Telephone: Willesden 731.

Telegrams: "Arismacha, Willroad, London."



**DAGGETT & RAMSDELL'S
 PERFECT
 COLD CREAM**

NEW PRICES

6d. Tubes ..	3/6 per doz:
1/3 "	9/- "
2/6 "	20/- "
1/9 Jars ..	14/- "
2/6 "	20/- "
4/- "	32/- "
7/6 "	60/- "

Special Display Terms.

BROOKS & WARBURTON
 (American Drug Supply Co.) Ltd.

40-42 Lexington Street, London, W.1



Parfumerie De l'Isle Notre Dame

FLORAL OILS (CONCENTRATED) FOR THE PREPARATION OF BRILLANTINES

Highly perfumed oils which can be diluted down to the required strength with pure Mineral Oil.

The odours are extracted direct from the flowers by our special "Enfleurage" Process, and are exact reproductions of the actual flower odours.

They are remarkable for their fineness of quality, and never become rancid.

They can be supplied in any floral odour:

HELIOTROPE	ORANGE
JASMIN	RESEDA
JONQUILLE	ROSE
LILY	TUBEROSE
VIOLET, etc.	

Prices and Samples on application.

SPURWAY ET CIE, LTD.

89 Great Eastern Street,
 LONDON :: :: E.C.2.

Factories & Distilleries:
CANNES-GRASSE, RIVIERA.
Technical Laboratories: PARIS.

LEIPSIC NEW YORK
 KINGSTON (ONTARIO)

Telegrams - "NEROLI, LONDON."
 Telephone - - BISHOPSGATE 1372.

Important-for you

Why do dentists advise Wrigley's after every meal?

Because —

Wrigley's does for Teeth what nothing else can do

Wrigley's is much more than a delightful, long-lasting, inexpensive sweet. It is so good for the teeth that dentists everywhere recommend its use. The reasons for this are plain.

Bits of food lodge in the crevices between the teeth and in the fold where the gums cover the edge of the enamel. If these particles are not removed they ferment and cause decay, but by the use of Wrigley's they are all pushed out and flushed away. Thus the teeth are kept clean and sound.

Give Wrigley's to the children regularly. They love it and it does them good. And use it yourself *after every meal*. Nothing else can give your teeth such a searching cleansing — the kind of cleansing they should have.

WRIGLEY'S

SPEARMINT - 3'
P.K. - 1'

After
every
meal



If you will read our advertisements you will find that Wrigley's Chewing Sweets are being sold to the public on the basis that makes them an appropriate line for chemists.

People are advised daily to use Wrigley's not as a sweet, but for the preservation of their teeth and the consequent improvement of health. So they will expect to get Wrigley's in a chemist's shop, just as they would tooth paste and tooth brushes.

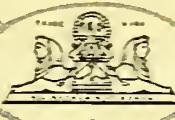
These advertising arguments (which are founded on highest dental and medical authority) make Wrigley's a natural article for you to stock.

Furthermore, the very wide and increasing sale of Wrigley's—eight to ten million packets sold every month and a very big increase from year to year—make Wrigley's a very profitable line to handle.

It is essentially an *extra sale* line. A jar each of Spearmint and P.K. near your cash register provides surprising additional income.

WRIGLEY'S

Wrigley's, Limited,
177-178, Tottenham
Court Road, London,
W. 1.



*You will never find
"Mineral Spring" here*



PRICES

RETAIL

1/- & 2/-
(P. A. T. A.)

TRADE

8/- & 16/-
per dozen.

For orders
of 5 gross
7/6 & 15/-
per dozen.

5% Dis-
count for
prompt
cash.

Carriage
paid on
orders for
£1 and up.

MINERAL SPRING" is not, and never has been a grocery line scheming to get the *entrée* to pharmaceutical society. "Mineral Spring" is the Chemist's Own Effervescent and cannot be ordered from the grocer along with the soap and tinned meats.

C Repeat orders for "Mineral Spring" come to the pharmacy and yield a profit of over 40% for an order of only 5 gross.

THOMAS KERFOOT & CO LTD
BARDSTLE VALE, LANCASHIRE,
& Bardsley House, London, N.1
ESTABLISHED 1797

FOUR
LINES
FOR
THE
PHARMACIST

□ □ □

"Frozoclone" is known to all.

Retail 3/6 P.A.T.A.

Special Terms for Bonded Shipments, 4 gross minimum.



In Green Bottles, Registered.

EACH
UNIQUE
IN ITS
OWN
CATEGORY

□ □ □

Often imitated, never equalled.

Per Doz. 32/-

Solid English Lavender. Similar size and packing as "Frozoclone," but in blue glass. Terms as for "Frozoclone."

"ANALAX"
The Luscious
Laxative
Pastille.



Retails 2/3
P.A.T.A.
Per Doz. 21/-
stamped.



CARNATE
Retails at 1/9 P.A.T.A.
Per Doz. 15/-

MUTHOL.

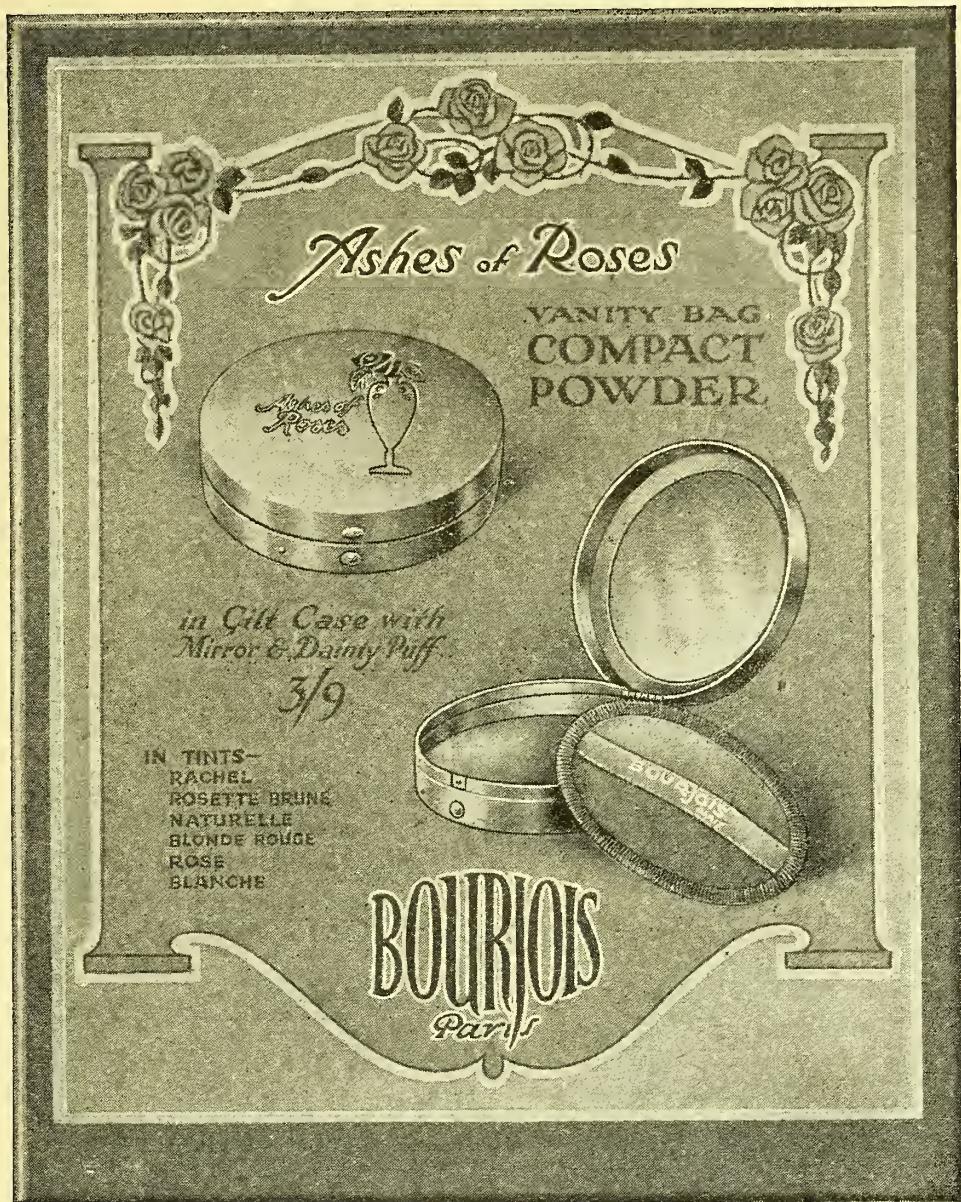
Paraffinum Liquidum B.P. in a solid Emulsion put up in reputed 1-lb. jars. Raspberry, Lemon and Orange flavours.

Retails at 4/- P.A.T.A.
Per Doz. 36/-



R. DEMUTH'S LABORATORIES

68 SALSBURY ROAD
& MONTROSE AVENUE,
LONDON, N.W.6.



Are you exhibiting this . . . attractive Showcard?

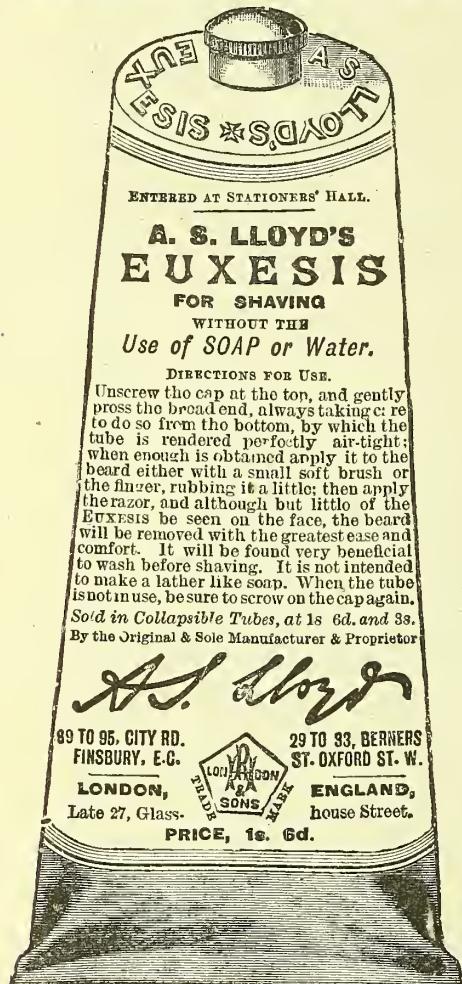
THIS dainty and distinctive showcard depicting in actual colours the newest and most popular *Ashes of Roses* success will help you to sell more and more of this wonderful line. If you are not displaying one write to us for a copy to-day.

A. BOURJOIS ET CIE, Ltd., 4 Water Lane, LONDON E.C.4
 PARIS NEW YORK SYDNEY NEW ZEALAND

A. S. LLOYD'S EUXESIS

(THE GENUINE).

For Shaving without Soap, Water, or Brush.



Sold by all Perfumers and Chemists throughout the World.

R. HOVENDEN & SONS having purchased, under an administration suit, the Business of the late A. S. LLOYD, with the Receipt, Trade-Mark, and Goodwill of the celebrated Euxesis, the Trade are cautioned that the original and genuine Euxesis is now manufactured at our Factory ONLY and may be obtained at either of our Warehouses.

PRICES ON APPLICATION.

NOTICE.—THE GENUINE A. S. LLOYD'S EUXESIS bears a label printed in BLACK only on a Yellow ground, with our Trade Mark at the bottom, as Illustration.

Proprietors : **R. HOVENDEN & SONS, LTD.**
LONDON: 89-95 City Road, E.C.1; and 29-33 Berners Street, W.1

DEARBORN (1923) LTD.

37 Gray's Inn Road, London, W.C.1

Toilet Specialties.

	Price per doz.	Selling Price to Retailer P.A.T.A.
PILENTA SOAP	10/-	1/-
A complexion soap.		
PROLACTUM	10/-	1/-
For the lips.		
PARSIDUM JELLY	10/-	1/-
For wrinkles.		
ALLACITE OF ORANGE		
BLOSSOM	22/6	2/6
A dressing cream.		
BORANIUM	22/6	2/6
A hair tonic.		
CLEMINITE	22/6	2/6
For a face lotion.		
COLLIANDUM	22/6	2/6
For a face tint.		
PERGOL	22/6	2/6
A deodorant.		
TEKKO PASTE	22/6	2/6
Camphor cream.		
STALLAX	22/6	2/6
For a shampoo.		
JETTALINE	31/6	3/6
For clearing the skin		
PHEMINOL	36/-	4/-
A depilatory.		
MENNALINE	36/-	4/-
For the eyelashes.		
MERCOLIZED WAX	18/-	2/-
A face cream.	31/6	3/6
STYMLOL	36/-	4/-
For oily complexions and blackheads.		
SILMERINE	22/6	2/6
Hair-curling fluid.		
BARSYDE	22/6	2/6
Dandruff eradicator.		
TAMMALITE	22/6	2/6
For grey and faded hair.		
LIQUID PERGOL	31/6	3/6
To check excessive perspiration locally.		
BICROLIUM	22/6	2/6
For whitening the hands.		
COCONOIDS	31/6	3/6
For figure development.		

The Products of

Messrs. PARKER, BELMONT & CO.

CLYNOL BERRIF	36/-	4/-
For obesity.	58/6	6/6
SOFT PALERIUM	45/-	5/-
For wrinkles.		
LIQUID NAIL POLISH	10/-	1/-
Brilliant and lasting.		

Stocked by, ALL Wholesale Houses.

COLONIAL DEPOTS AND AGENCIES.

Australia: ALL WHOLESALERS, & DEARBORN (Australia), Ltd., Grace House, Clarence Street, Sydney.
South Africa: LENNON, Ltd., Cape Town, etc.
SIVE BROS. & KARNOVSKY, Johannesburg.
India: FRAMJEE & SON, Bombay.
A. L. CHOUDRY, Calcutta.
New Zealand: SHARLAND & CO., Auckland and Wellington.
South America: DEARBORN (South America) Ltd., Calle Pavon 2100, Buenos Aires.
Straits Settlements & Federated Malay States: MEDICAL HALL, Ltd., Singapore.

A. S. LLOYD'S EUXESIS.

For Shaving without Soap, Water, or Brush.

CAUTION.

The Labels on GENUINE EUXESIS bear two signatures—

A. S. Lloyd in Black Ink, and that of his Widow,
Aimée Lloyd, in RED. Refuse any other.

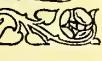
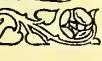
**Sole Manufacturers and
Proprietors:** **AIMÉE LLOYD & CO.**

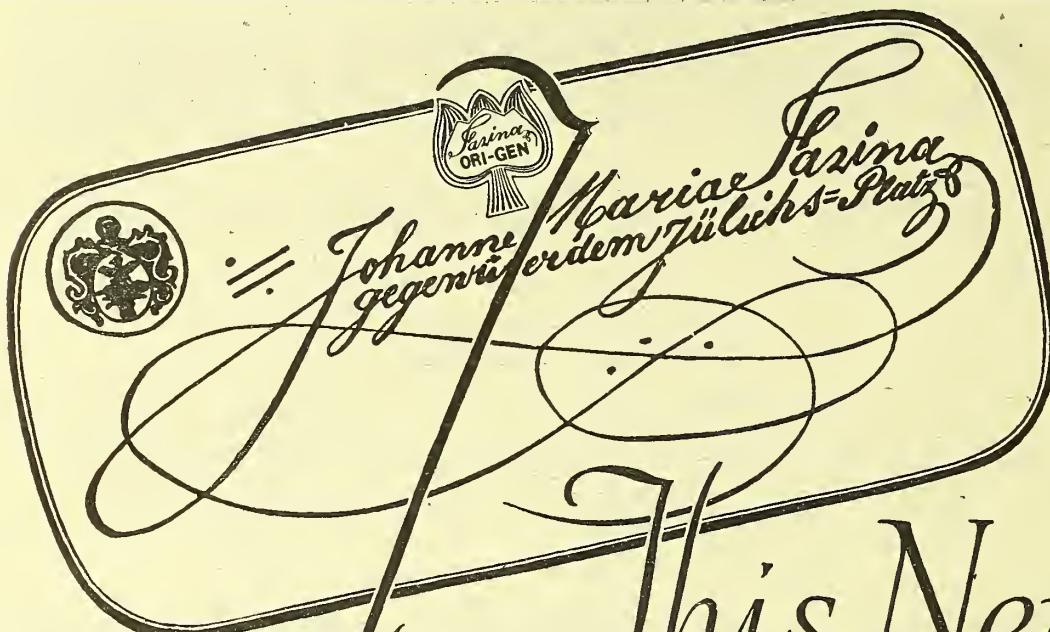
23 PANTON STREET (formerly named Spur Street),
HAYMARKET, LONDON, S.W.

N.B.—When ordering from Wholesale Houses write LLOYD'S EUXESIS (WIDOW'S).

 <p>PAPIER POUDRÉ POPPŒA ROUGE</p> <p>Sole Proprietors and Manufacturers: PAPIER POUDRÉ, Ltd., 46 Baker Street, W.1 NONE GENUINE WITHOUT ABOVE TRADE MARKS</p>	<p>Made in Booklet Form in White, Rose and Rachel tints 4d., 6d., 8d., and 1/4 sizes at 2/8, 3/9, 5/- and 10/- per dozen nett, respectively.</p> <p>ONE SIZE ONLY 1/- at 8/- per dozen.</p>	
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<p>THE EVAN-WILLIAMS</p> <p>ALWAYS IN GREAT DEMAND. PRICE LIST ON APPLICATION.</p> <p>The EVAN-WILLIAMS Co., Ltd., 14/15 Union St., W.1.</p> <p>SHAVING POWDER</p>	<p>FACE POWDER Any Grade Any Colour Any Quantity</p> <p>COLD CREAM—VANISHING CREAM MASSAGE CREAM—TALCUM POWDER All Merchandise in Bulk or in your own Containers. Drug Grinding done for the Trade.</p> <p>The O-PINE-O Manfg. Co. Ltd., Montague Rd., Hornsey, London, N.8</p>
--	--

<p>BEETHAM'S TOILET LINES ARE GOOD STOCK</p>	
<p><i>Lait Sarola</i> </p>	<p><i>Sarola Rose Bloom</i> </p>
<p><i>Glycerine & Cucumber</i> </p>	
<p>M. BEETHAM & SON, CHELTENHAM</p>	



The
**SIGN OF A
 NEW
 £10,000
 ADVERTISING
 CAMPAIGN**



The **Original & Genuine
 EAU de COLOGNE**

ESTABLISHED 1709.

THE OLDEST PROPRIETARY WITH TWO CENTURIES' WORLD-WIDE REPUTATION

Special Carriage Paid Offer.—To ensure that every Pharmacist shall be in a position to meet the first part of the demand, we are making a SPECIAL CARRIAGE PAID OFFER OF

10% ON ALL ORDERS OF £5 MINIMUM RECEIVED BY US UP TO APRIL 30.

(After this date usual P.A.T.A. terms only.)

which appears on the well-known label on every bottle of the Original and Genuine Eau-de-Cologne has been introduced to enable both Trade and Public to identify more readily this famous brand of Eau-de-Cologne which was invented by JOHANN MARIA FARINA, GEGENÜBER DEM JÜLICH'S-PLATZ, COLOGNE, IN THE YEAR 1709.

A £10,000 Advertising Campaign is being launched immediately, and large space advertisements will appear continuously throughout the Season in such papers as the

Daily Mail	Tatler	Bystander
Nash's Magazine	Good Housekeeping	
Queen	Eve	Country Life
Manchester Daily Dispatch	Yorksire Post	
and many others.		

All enquiries should be addressed to the Sole Agents—

BLACKALLER & PLEASANCE

8 Laurence Pountney Hill

Cannon Street

LONDON, E.C.4

Will a Tooth Powder Clean False Teeth?

IT DEPENDS ON THE TOOTH POWDER!

SOME Tooth Powders may contain grit of all kinds, cuttle-fish, pumice, and sharp crystalline substances. Such a Powder would undoubtedly clean False Teeth, but the whole Denture would suffer in the process.

EUCRYL TOOTH POWDER

was never intended for false teeth—it is carefully prepared as the scientifically perfect dentifrice for *natural* teeth ; the plate, teeth, and fittings of a denture are a different matter. For these you should advise

EUCRYL DENTURE POWDER

IN THE LIGHT BLUE TIN.

Coarse cleansers scratch and good Tooth Powders cannot remove all the stains and deposits efficiently.

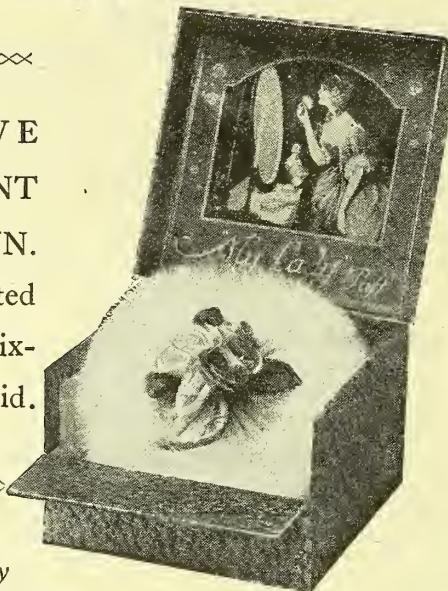
EUCRYL DENTURE POWDER should always be recommended for False Teeth.

5/- PER DOZEN. - RETAIL $7\frac{1}{2}$ D. EACH.

EUCRYL LTD. - - Shirley, Southampton

“MY LADY” PUFF

ATTRACTIVE
FLORAL MOUNT
ON SWANSDOWN.
Boxed as illustrated
with High-class Six-
colour Label in Lid.



Manufactured only by

WILLIAMSON BROS., 126 SOUTHWARK ST., S.E.1

Or put up in Boxes
of $\frac{1}{2}$ dozens covered
Fancy Paper with
Enlarged Label in
Lid. Puffs (assorted)
protected with Cello-
phane Cover.

Phone: Hop 3419.

Telephone: Axminster 5.

Telegrams: "Coate, Axminster."

COATE & CO. (Axminster) Ltd.

The London Brush Works, Axminster, Devon.

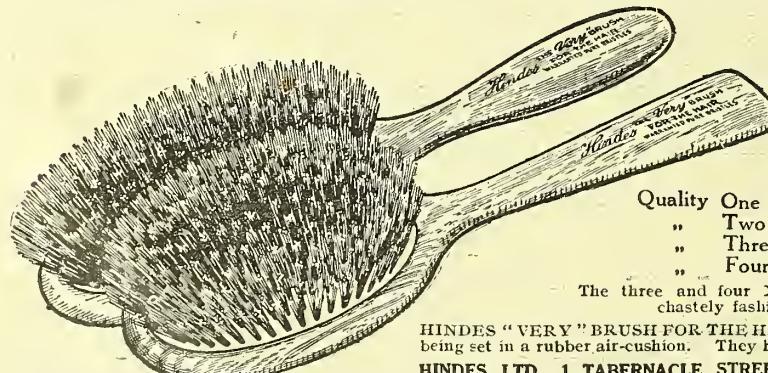
Estab. 1847.

Manufacturers of Super British Brushes

Our Special "PROPHYLACTIC" Tooth Brushes—

3 row Hard, Medium, Soft, Yellow Hair @ 16/- per dozen
4 " " " " " " " " 18/- "

Orders for one gross supplied in Cartons with customer's name and address free.
Every Brush Guaranteed. British made by British Labour. Send for our present list of prices.



HINDES
“VERY”
HAIR BRUSH

Quality	One X	Sold at 7/6d. each.	TRADE PRICE
"	Two XX	" 10/6d. "	
"	Three XXX	" 15/- "	
"	Four XXXX	" 18/6d. "	

The three and four XXXX grade is made in Ebony or Rosewood
chastely fashioned in both oval and circular bodies.

HINDES "VERY" BRUSH FOR THE HAIR is guaranteed pure bristles, the multiple tufts
being set in a rubber air-cushion. They have been known to the trade for nearly 40 years.

HINDES LTD., 1 TABERNACLE STREET, LONDON, E.C. :: Works: BIRMINGHAM

Euthymol
THE TOOTH PASTE OF THE WISE

SOUND teeth can do so much for health that no care is too great to keep them in good order, safe and sound. Wise people use Euthymol Tooth Paste which, in the strength (about twenty per cent.) usually applied to the teeth, is able to kill the germs of dental decay within thirty seconds contact. Ask your Chemist for Euthymol.

GOLDEN RULE.
Have your teeth examined by a dentist every six months and use Euthymol twice daily. To Sprinkle on tubes of oil. Print.

The HUNT for HEALTH.

CM.G. (MAINLY FOR

Thoughtful people follow the bounds of health. They study dental hygiene. Less thoughtful people pay no attention to the outward, visible condition of their present teeth and consider the permanence of the teeth. Between the teeth, a tooth will be well advised. A tooth.

Euthymol
TOOTH PASTE

Send for Booklet, and Free Trial Tube, to Parke, Davis & Co., (Dept. W.), 54, Beak Street, LONDON, W.1

KILLS DENTAL DECAY GERMS IN 30 SECONDS

1/3 OF ALL CHEMISTS

THE advertisements reproduced have recently appeared in influential national newspapers such as the *Daily Mail*, *Daily Chronicle*, *Daily News*, etc., and in well-known weekly illustrated magazines, as *Punch*, *Tatler*, *Bystander*, *Country Life*, etc. They constitute part of a publicity campaign arranged for the 1925 season to increase the demand for Euthymol Tooth Paste still further.

The chemist who gives Euthymol Tooth Paste a permanent place on his counter and, still better, in his window also, will undoubtedly benefit from this campaign.

Link Up

PARKE, DAVIS & CO.
50 Beak Street, London, W.1

Be sure you see the sample

*—also examine the order
blank before you sign*

A curious fraud is being practised in the soap trade.

A traveller asks a retailer whether he wants any Palmolive Soap. The latter checks his stock, decides he needs some, and signs an order in the usual way—without looking.

When the soap arrives it is not Palmolive at all, but one of the many imitations claimed to be made of palm and olive oils.

The retailer has no recourse, because his signature is on the order, and one man's word is as good as the other's about the conversation that preceded the signing.

Scores of dealers have reported to us that they have been misled in this fashion. It happens most frequently in the North.

You are safe in buying of wholesaler's travellers, because they deliver what they sell. You are safe also if you order through a regular Palmolive man.

Our salesmen all carry samples of our soap—known by the famous green crepe wrapper with the black band and the word "Palmolive" in gold.

So when you order Palmolive from a traveller unknown to you, ask to see his sample, and read the order blank before you put your name down.

Registered. **“FURSAC”** Patent applied for.

SENSIBLE ATTRACTIVE.
HYGIENIC
EFFICIENT : SIMPLE
ECONOMIC

Natural Undyed Fur and
Selected Leather.
Powder Puff and Powder
Container combined.



THE FINEST SELF-CONTAINED POWDER PUFF
YET PRODUCED.

Powder contained in specially-designed pocket, percolating through self-closing slits on to the surface of puff. Powder cannot spill. Customer uses her own Powder.

Beware of inferior imitations which are far from creditable to the manufacturer or satisfactory to the buyer who is misled by similarity of names. GENUINE “FURSACS” can be obtained from all leading wholesalers or direct from

FLETCHER SQUIRES & CO.
70 GOLDHAWK ROAD, W.12.

Phone: Riverside 3110.

IT WILL PAY YOU

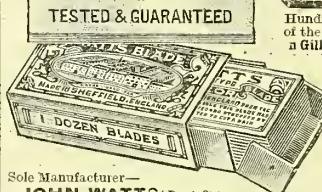
To study our prices. We specialize in your requirements and have a large variety of suitable lines at lowest prices, viz.—
TOOTH BRUSHES, White Handle, Waxed Backs, 3/- and 4/- per dozen.
TOOTH BRUSHES, Coloured Celluloid Handles, stamped “Hygiene,” 3/6 per dozen.
PRO-PHY-LAC-TIC TOOTH BRUSHES, each in a carton, 12/- per dozen.
FRENCH SHAVING BRUSHES, Guaranteed Free from Anthrax, with Wood or Bone Handles, in large variety, 3/6, 4/-, 7/6, 12/-, 18/- and 27/- per dozen. We can also supply **Genuine Gillette Blades**, and all leading makes of **Safety Razors and Blades**. Let us quote you. Our prices are unbeatable. Terms: Nett Cash with Order or goods sent against approved refs.

L. FRANKENBERG, 15 Stoney Lane, Houndsditch, London, E.1. Phone: Avenue 1170.

DISPLAY THEM ON YOUR COUNTER
‘WATTS’ SUPER-KEEN SHEFFIELD-MADE SAFETY RAZOR BLADES

A perfect shaving instrument

A user writes: “I find your ‘Watts’ Blade superior to any other, especially here in U.S.A.”



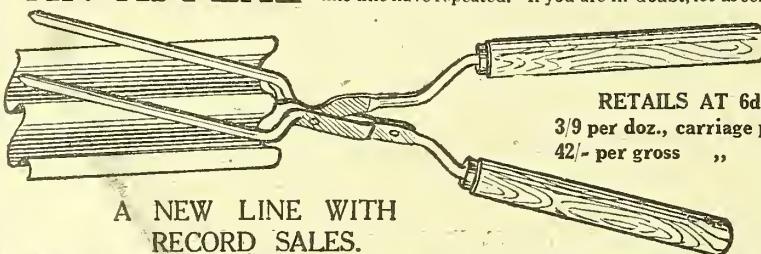
Sole Manufacturer—
JOHN WATTS (Dept. 3)
Lambert Works, Sheffield
London: 24 Redcross St., E.C.1

Hundreds of testimonials from all parts of the world testify to their efficiency. A Gillette type, Autostrop type (as illustrated), Ever-ready type & Clemak type. ‘Watts’ Autostrop-type Blades are now provided with holes (as illustrated) to enable them to be strapped in the wonderful ‘Spiro’ Sharpening Machine.

3/6 per dozen
(allowing 50% profit on cost for the stockist).
Established over 100 years.

AN APPEAL

To the Chemist who has not yet handled our Wavers. 85% of our customers who have taken up this line have repeated. If you are in doubt, let us send you sample—you will order—and repeat.



RETAILS AT 6d.
3/9 per doz., carriage paid.
42/- per gross “ ”

A NEW LINE WITH
RECORD SALES.

THE LISTER HAIRWAVER FOR BOBBED HAIR

STANDEN & PERKS

Gt. Lister Street,
BIRMINGHAM.

Pears'

IVO STRIP SHAVING STICK.

*Big advertising
in National
and Provincial
Press*



These & many more will make it go

The 1925 seller

Write for trade terms to:—Sales Manager, 71-75 New Oxford Street. W.C.

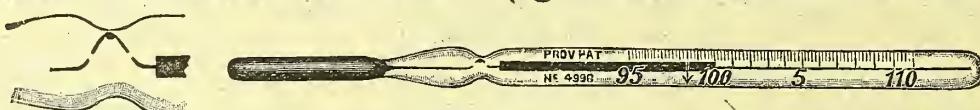
IV.17-29.

B B

CLINICAL THERMOMETERS

(BEST ENGLISH MAKE GUARANTEED)

THE "DUO-IN-UNO" (QUICK SHAKE-DOWN)



In addition to medical men and nurses the general public are now buying Clinical Thermometers in ever-increasing quantities. They will buy more still if it can be made clear to them how easy these Thermometers are to use. The great difficulty has always been the resetting or shaking down of the index after use, which frequently requires considerable exertion. This trouble is obviated in our "Duo-in-Uno" (quick shake-down) Thermometer. The proverbial "brace of shakes" is not necessary—one shake does all that is required.

PRICES

ROUND PATTERN,	2 minute	per doz.	s. d.	LENS FRONT,	2 minute	per doz.	s. d.
" "	1 "	"	20 0	" "	1 "	"	21 0
" "	½ "	"	21 0	" "	½ "	"	24 0

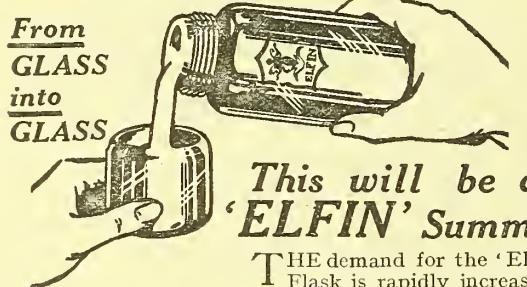
Each one in metal case, and packed in a specially designed card box with descriptive label on lid.
Customers can have their names engraved on any of the above Thermometers free of charge.

NOTE.—The above prices are for guaranteed best London Made Thermometers but which are NOT STAMPED at the National Physical Laboratory. If they are required so stamped (N.P.L.) the price will be 3/- per dozen more in each case.

CARRIAGE PAID ON ORDERS OF £3 AND UPWARDS.

A discount of 5% for prompt cash is allowed on all amounts of 10/- and upwards. Money returned if goods are not satisfactory. Write for New Price Lists of Druggists' Sundries, Toilet Requisites, Rubber Goods, Cut Sheet Rubber Appliances, etc.

BURGE, WARREN & RIDGLEY, LTD. 91 and 92 GREAT SAFFRON HILL, LONDON, E.C.1



Cricket
Tennis
On River
Cycling
Holidays

Retails at

4/6

ELFIN
VACUUM FLASK

a quick and profitable seller.
Supplied in cases of 100 and sample
cases of 12 and 24. Write for Trade
terms and get your supplies in now.

Central Depôt, "C,"

THE ELFIN FLASKS

25 Finsbury St., London, E.C.2

Estd. 1850

BERTONS
of Old Street

have made and marketed

**Dr. White's
Sanitary Towels**
(Registered)

for 40 odd years. If you do not
stock them you are missing the best
line of its kind.

Free Samples : Free Protectors :
Free Showcards.

Full particulars and terms willingly furnished.
SEND US A LINE NOW.

ARTHUR BERTON, LTD.

Factory, Warehouses and Offices :
Britannia House, Old St., London, E.C.2
And at Manchester and Glasgow.



The Goodrich "35" red rubber water bottle is moulded, by hydraulic pressure, in one piece. There are no seams. The rubber is heavily reinforced where the strain comes most.

OTHER GOODRICH SPECIALTIES:— Combination Douche and Hot water Bottle. Fountain Douche, Combination Water Bottle and Syringe. Spray Douches. Face Bottles, Etc., Etc.

The correct functions of a hot water bottle are three in number:

- 1.—It must hold water—securely;
- 2.—It must diffuse heat—steadily and equably;
- 3.—It must remain hot—over a long period.

Since these are qualities not common to all hot water bottles let us consider some opposite types.

There are bottles which leak and bottles that puncture, bottles that enlist for short service and bottles which have to be put on the dole. There are bottles which become unbearably hot in a few moments and insufferably cold in half an hour. Enemies to Society, these bottles.

The ideal hot water bottle is a friend of the family; it is as pleasant to the touch as to the eye. It has a sunny disposition which radiates warmth through many winters. Like the sound family doctor—always reliable, always on hand, cheering and comforting at an incredibly small fee.

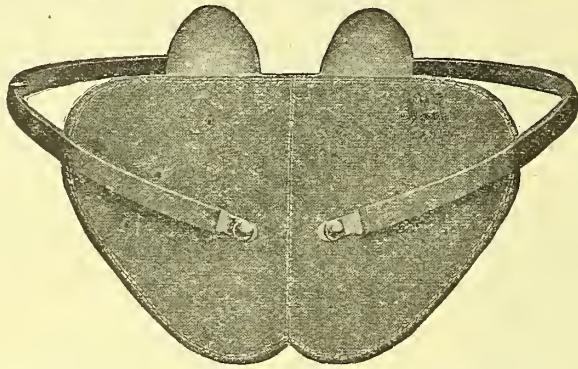
BRITISH GOODRICH RUBBER COMPANY, LTD.

Registered Office - - - - - 50, Pall Mall, London, S.W.1.
Factory - - - - - Leyland, Lancs.

London Receiving and Despatching Depot - 199, Buckingham Palace Road, S.W.1.

Branches:—Belfast, Birmingham, Bristol, Dublin, Glasgow, Leeds, Liverpool and Manchester.

THE KINGSTON ABDOMINAL SUPPORTER



For General Weakness of the Abdominal Section and an Efficient Support for the Lower Abdomen, this appliance is invaluable.

In three qualities:
Basil and Chamois. Calf and Persian.
Calf and Lambskin.

R. H. HEWARD Co., Surgical Appliance Manufacturers, TWICKENHAM

CRÈPE VELPEAU BANDAGES AND ABDOMINAL BINDERS

In Original French Cartons.



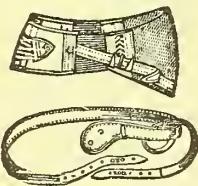
The Most Perfect and Durable Crêpe Bandages that have ever been produced.
In two qualities only.

Demand **CRÈPE VELPEAU.**

J. H. HAYWOOD, Ltd.

Surgical & Athletic Appliance Manufacturers
Castle Gate, NOTTINGHAM.

Established 1833.

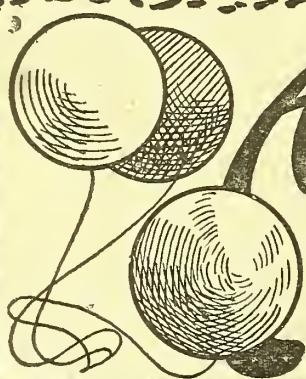


SPECIALITIES FOR WINTER.

SURGICAL ELASTIC HOSIERY, TRUSSES, SUSPENDERS, BRACES, LADIES' AND GENTLEMEN'S BELTS for SUPPORT and WARMTH made in Fleecy, Felt, and Chamois, etc. CHEST PROTECTORS and SLEEPING SOCKS, ELASTIC and LEATHER WRISTLETS, ARM PIECES, ELBOW PIECES and KNEE CAPS for Football, Golf and Hockey. DRUGGISTS' SUNDRIES, INDIA RUBBER HOT WATER BOTTLES and COVERS, ELASTIC WEB BANDAGES, all lengths, widths and qualities.



LOWEST QUOTATIONS AND SAMPLES ON REQUEST.



Advertising Balloons

SQUEAKERS,
DYING BOARS,
SWANS, BIRDS,
ELEPHANTS, &c.

A VERY EFFECTIVE
FORM OF ADVT.
SPECIAL DESIGNS
SUBMITTED.

WHOLESALE & EXPORT
ENQUIRIES INVITED.
WE ARE ACTUAL MANUFACTURERS

JOSEPH HARRIS & COMPANY
RUBBER WORKS, BROADHEATH, ALTRINCHAM.

SURGICAL DRESSINGS OF SUPER QUALITY

(Wholesale and Export Only).

Absorbent Lint, Boric Lint,
Bandages, Gauzes, Gauze
Tissue, Cotton Wools, Coiled
Wool, Grey Wools, Capsicum
Tissue, Sanitary Towels,
Dental Gauzes and Napkins,
- - Hygienic Squares. - -

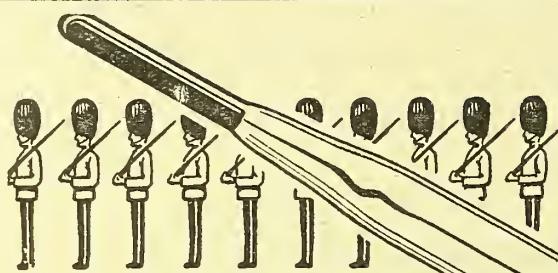
Bleachers of Bandage Cloths,
Gauzes, etc., to the Trade.
- Also Absorbent Cotton. -



THE WARDLE COTTON CO., LTD.
WARDLE, NR. ROCHDALE

Spinners and Manufacturers from the
raw materials to the finished product.

London : 9, Fore St. Avenue, E.C. 2.



Our Advertising is selling
the new "Clinical"—
"The Sentinel"
to your Customers!

DON'T MISS SALES
through not having supplies, but
send at once for full details to

Sole Manufacturers :

G. H. ZEAL, Ltd. 77 ST. JOHN STREET,
CLERKENWELL, E.C.1.

Telephone: CLERKENWELL 5202.
Telegrams: "Zealdom, Smith, London."



MAKERS
GEORGE MACLELLAN & CO. LTD.
Makers of Everything Waterproof and Rubber,
Glasgow Rubber Works, Maryhill, Glasgow.
(Estab. 1870.)

NEWCASTLE-ON-TYNE : 22 Newcastle Street, E.C.1.
SUNDERLAND : 44 Borohead Road.

CARDIFF : 58 James Street.
BIRMINGHAM : 44 Shambles Lane.
BELFAST : 37, Victoria Street.



W.M. WARNE & CO. LTD.
29 GRESHAM STREET, E.C.2.
India Rubber Manufacturers,
Surgical, Chemical, Domestic Articles, Syringes,
Water Beds, etc.



SURGICAL RUBBER GOODS

SOLE MANUFACTURERS "EVE" BRAND SINCE 1894

ADVERTISING BALLOONS AND NOVELTIES. RUBBER MATS, &c.

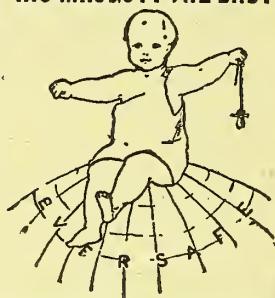
X-L RUBBER CO., Altrincham, Cheshire. ENQUIRIES INVITED
Phone - 703 Altrincham

PESSARIES
ENEMAS, &c.

Sells at Sight. Gives Satisfaction. Pays Well.
WHAT EVERY MOTHER KNOWS!

The "EVERSAFE" BABY PACIFIER

All over the World
They are Acclaimed
the Favourite of
HIS MAJESTY THE BABY



Patented Everywhere.

REDUCED RATES—

No. 2. 4d. Line.	2/6 doz.
No 2c. 6d.	3/1 "
No. 2e. 6d.	3/1 "
No. 3. 7½d.	4/- "

Sample Order, 3 dozen
assorted, sent 9/6 post free

Obtainable from all Wholesalers
or direct from Patentees.

F. SCHUTZE & CO. Ltd.
BLACK BULL WORKS, LONDON, N.7

ART OF DISPENSING.

New Edition in course of preparation.

VETERINARY COUNTER PRACTICE.

7/6, by post 8/-.

CHEMISTS' WINDOWS.

Price 3/6, by post 3/9.

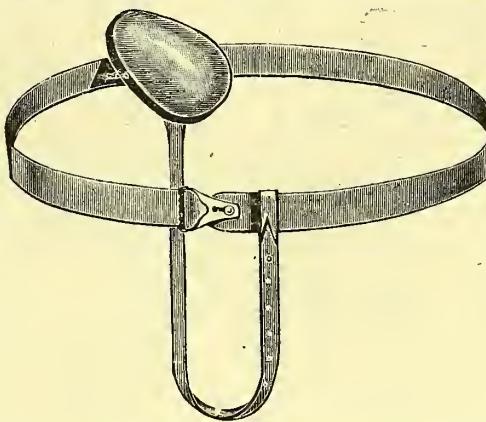
THE CHEMIST AND DRUGGIST,

42 CANNON STREET, E.C.4

THE SIMPLIC (REGD.) ALL RUBBER TRUSS

SIMPLIC SURGICAL SERVICE

Supplied with
INGUINAL,
SCROTAL or
CIRCULAR PADS
Single or Double.



SIMPLIC SELF-ADJUSTING SECURE

OBtainable
THROUGH
ALL USUAL
SUPPLY HOUSES.

THIS APPLIANCE embodies all the essentials so long sought after. It is EXTREMELY STRONG, INSTANTLY ADJUSTED to any size, and maintains an ADEQUATE PRESSURE under all conditions. The SIMPLIC TRUSS is specially designed for BATHING, being entirely rustless and unaffected by water. Specially prepared to suit all climates, it is the LAST WORD IN COMFORT.

Buy SIMPLIC Branded Goods—TEATS, SOOTHERS, GLOVES, Etc.

TRUSSES as a side line

are worth the Chemist's
attention and if made by
us can be relied upon.

Illustrated List
on request.
Wholesale and
Export only.



BELT TRUSSES
in great variety
A popular pattern

The
Hallamshire
Belt Truss.
Bored
Singly.

Obtainable through all Wholesale Druggist Sundriesmen

ELLIS, SON & PARAMORE (Established
over a century)
Spring Street Works, SHEFFIELD

NORVIC

Regd.

Crepe Bandages

are established "sellers" in their dainty packages. The chemist who does not stock is losing valuable business. Washable, hygienic, rubberless, cheap, they are the admitted preventive of and remedy for

Varicose Veins

Have you enquired into our new line--Vic Tonic Face-cloths? If not, do so now. You will find the demand growing. A first-class novelty with a full margin. Beauty's natural aid. Does not get "slimy." Put up in handy envelope-packages. Ask your wholesaler for an opening stock.



These, with Norvic Crepe Bandages and Binders, are sold only through the trade, but widely advertised, and with a great and growing sale make a line that appeals to women at all times. Ask for showcard and counter display.

GROUT & CO. Ltd.
Great Yarmouth.

Stocked by
all the leading Wholesalers.

Don't use COMMON BOTTLES

There is nobody so fastidious as an Invalid. Cater to his fastidiousness by turning out your prescriptions in the best possible style.

There is no better help than a smoothly finished, bright, attractive bottle.

Buy BEATSON'S BOTTLES

ESTABLISHED 1751.

Beatson, Clark & Co., Ltd.
ROOTHERHAM GLASS WORKS,
ROOTHERHAM.

Ferry for Bottles

MEDICALS, EMULSIONS, VIALS,
POISONS, LIMES, SMELLING
SALTS, LYSOLS, PANELS, KALIS,
BRILLIANTINES, Etc.

CANNONS, CHELTENHAMS,
POMADE POTS, MEXICANS,
PERFUME BOTTLES & TUBES

Stocks held of all lines. Wholesale only.

T. FERRY & SON, LTD.
1 REGENT'S ROW, QUEEN'S ROAD,
DALSTON, LONDON, E.8.

Phone: CLISSOLD 6346.
Grams: "TEFERGLAS, HACK, LONDON."

YOU CAN'T DISPENSE WITH BOTTLES!

¶ Paradoxical, perhaps — but they are essential.
¶ The twin brothers "Cough" and "Cold" (not to mention sister "Flu") make heavy demands on your bottle stock at this season.

¶ Order now—before stocks get too low.

3 and 4 oz. 6 and 8 oz.
13/- 15/-

Assorted Orders of 5 gross sent Carriage Paid in free cases.

THOMAS SWALES
20/24 Butts Court - - LEEDS

Registered Trade



Mark, No. 26866.



Hand-turned Shop Rounds.



Recessed Shop Rounds.



Recessed Poison Rounds.

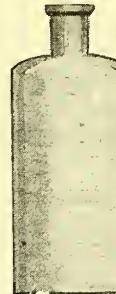
SHOP BOTTLES

of the finest finish. Perfect Stoppering. Made in glass free from arsenic and lead; this feature is of vital importance in the case of Shop Bottles.



DISPENSING BOTTLES—

accurate in Capacity, free from arsenic and lead, and handsome in appearance. The aristocrats of bottles.



R.C. Flat.

B.C. Flat.



DOUBLE-ENDED FEEDERS

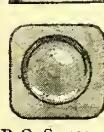
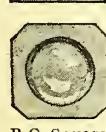
The finest the world has yet seen. Made in beautiful lustrous white flint glass which is so durable that it may be boiled continuously for twenty-four hours without shewing signs of deterioration.



Oval, 2 Flat Sides.



Octagon.



Sold by all the Leading Wholesale Houses.

WOOD BROTHERS GLASS CO., LTD.

BARNESLEY,

(Established 1828)

ENGLAND

GLASS BOTTLES

MEDICAL FLATS, PANELS, VIALS,
LIMES, KALIS, MEXICAN FLATS,
SCREW POMADES, BLUE POISONS,
CORN SOLVENTS, etc., etc.

**SPECIAL QUOTATIONS
FOR LARGE QUANTITIES**

TOM LAYCOCK & CO.

15 Cabinet Chambers,
Basinghall Street, LEEDS.

GLASS BOTTLES

IN FULL RANGE IN
WHITE FLINT, ACTINIC GREEN,
PALE GREEN, AMBER & BLUE.
PATENTEES & MAKERS OF ALL TYPES OF
FIRE EXTINGUISHER REFILLS.

MONEY'S PATENTS LTD.

111 DALSTON LANE, E.8.
'Phone: Dalston 1456.

FREDK. YOULDON

(formerly proprietor
of E. YOULDON.
Established 1840)

begs to notify CHANGE of his ADDRESS to

68 Basinghall St., London, E.C.2

and to assure his many
business friends that their
orders and enquiries for

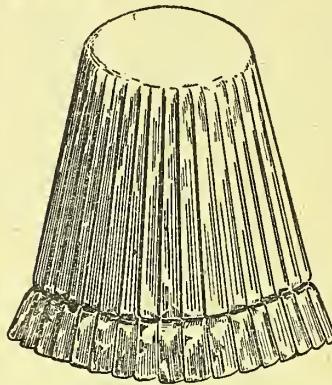
GLASS BOTTLES

will receive his best
personal attention.

Telephone: LONDON WALL 3529.

Telegrams: YOULDON, AVE, LONDON.

SMITH'S PLEATED PAPER Bottle Caps



The first in
Quality,
Lowest in
Price.

Write for
Samples and
Prices.

Try our
Non-Fading
Red.

RUBBER RINGS & CAPPING STICKS.

Smith Bros. & Co. Ltd.

Head Office: 110 PRATT ST., LONDON, N.W.1
Factory: 64-74 Gt. College St., N.W.1
Phones: NORTH 4016 & 4017. Telegrams: SMIBROCO NORWEST LONDON.

Phones: NORTH 4016 & 4017. Telegrams: SMIBROCO NORWEST LONDON.

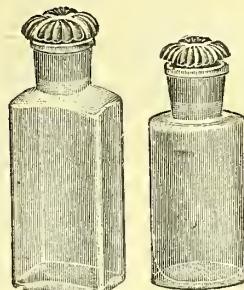
ADD TO YOUR TURNOVER. BONUM Worm Cure

FOR DOGS. Original and Genuine.

Gives remarkable results with perfect safety.
Unsolicited testimonials constantly received.
Packed in three sizes, puppy, medium and
large. Uniform price 10/- per dozen boxes.

Sole Proprietors:
HARKNESS, BEAUMONT & CO.
Wholesale Chemists - - - LEITH, EDINBURGH.

TO make "Special Lines" at "cheap" prices POSSIBLE at all—the first thing is "cheap bottles." We have QUANTITIES of various bottles—"just the very thing" for "Special Lines"—that "go" so well with the Chemist and the Public. We cannot repeat these lines at the prices we shall ask. Help yourself! Tell us what you want and the capacity, and we will send you sample bottles and prices.



To hold about
10 ozs. and 20 ozs.

IN STOCK.

BATH SALTS
CONTAINERS
IN PROFUSE
VARIETY AND
ALL SIZES



EMULSION BOTTLES

PANELLED.—About 4, 8, 12 and 16 oz.

OVAL.—About 6 oz. and 12 oz. lettered.



FLINT LIMES
Various sizes,
including
4oz. and 12oz.

CHELTEN-
HAMS
(about 12oz.)
from Stock

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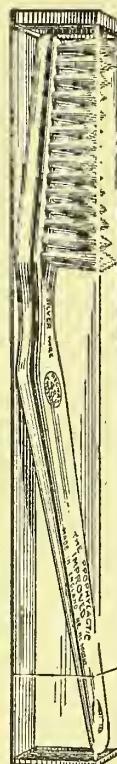
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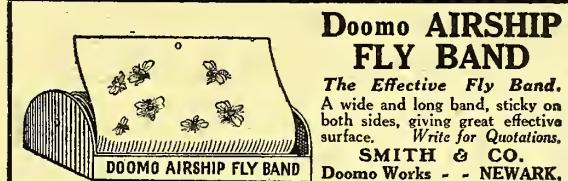
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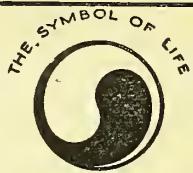
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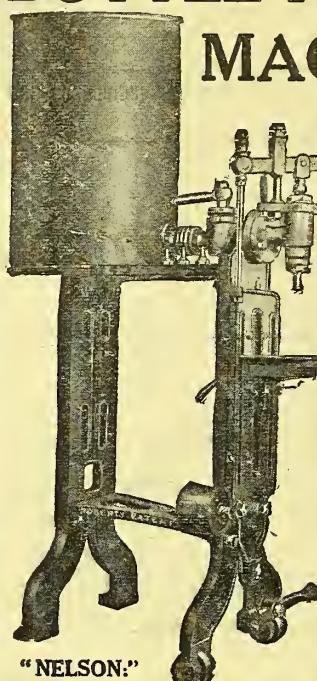
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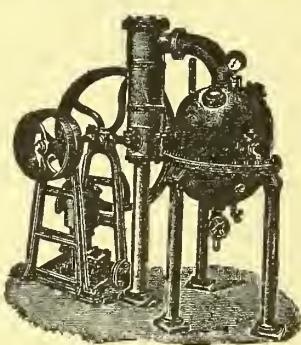
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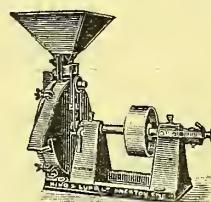
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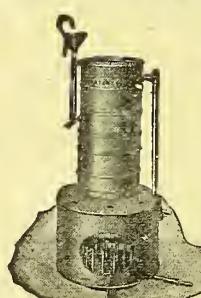
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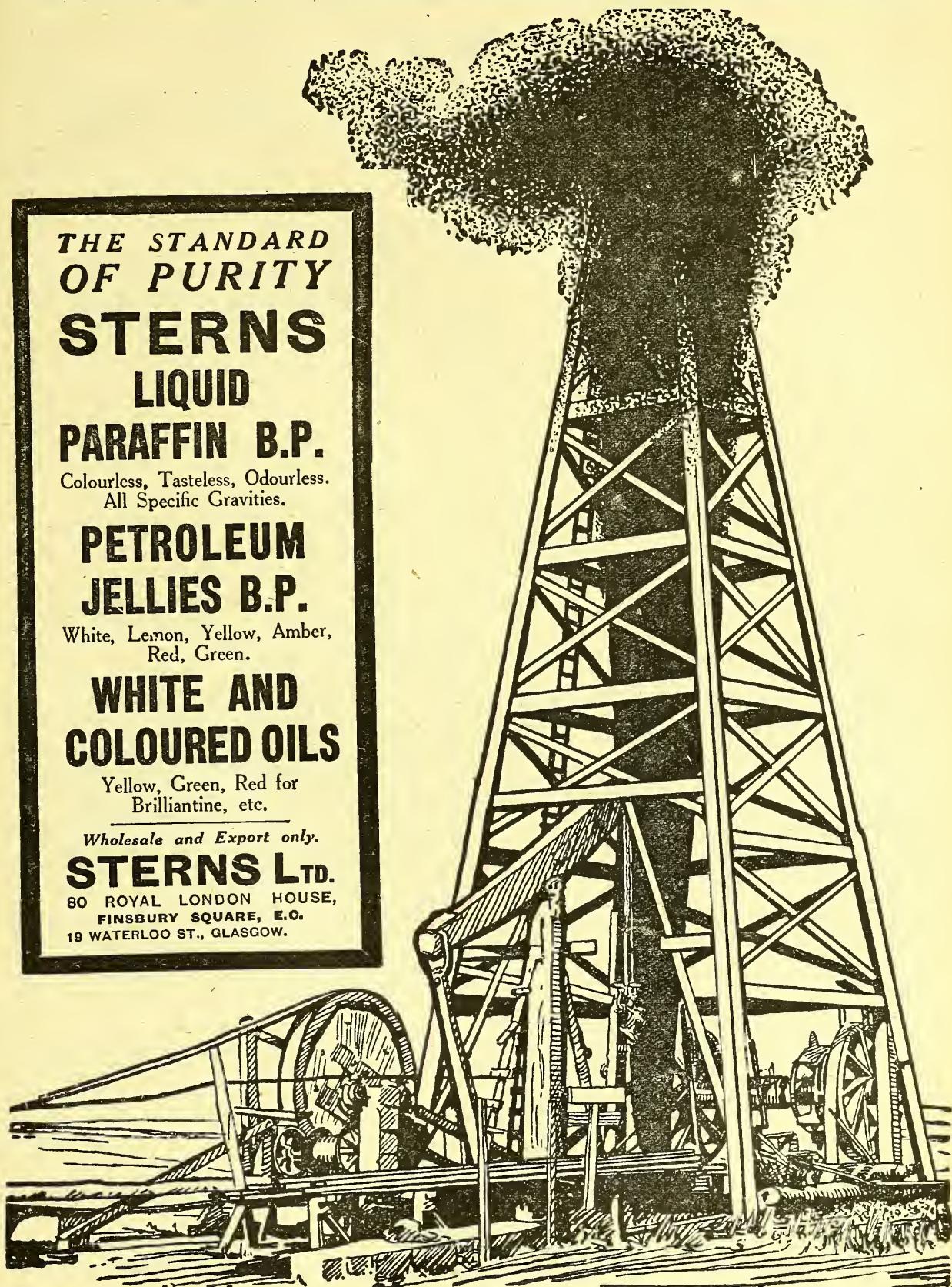
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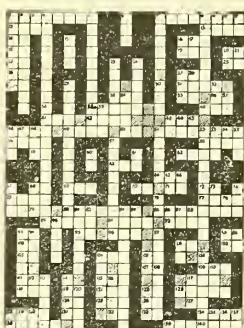
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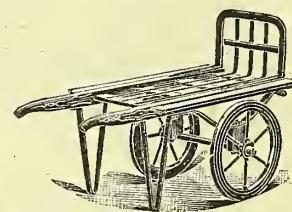
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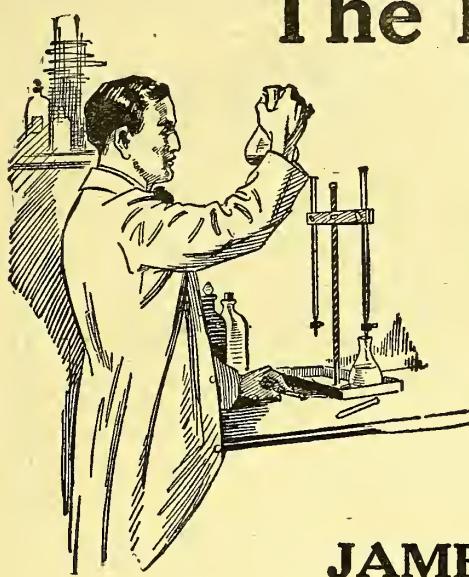
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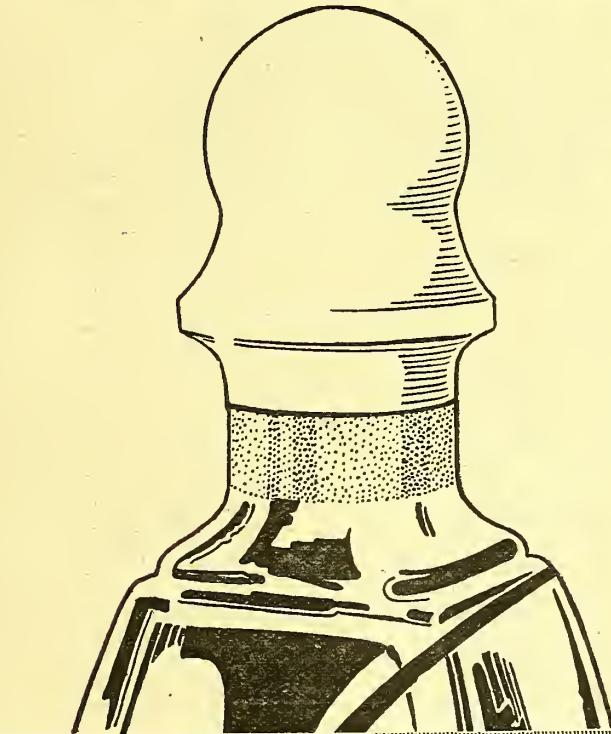
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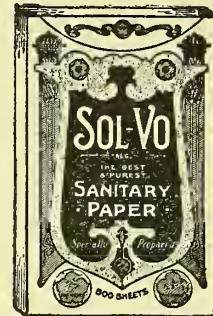
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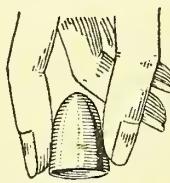
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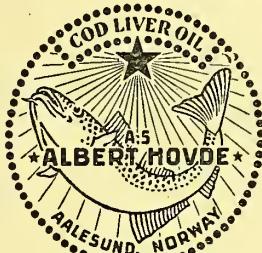
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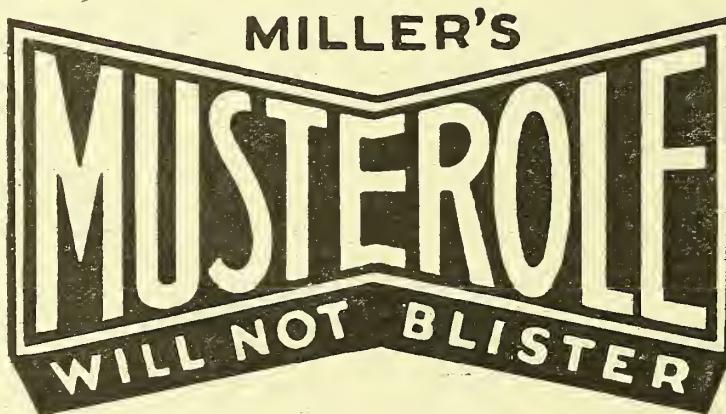
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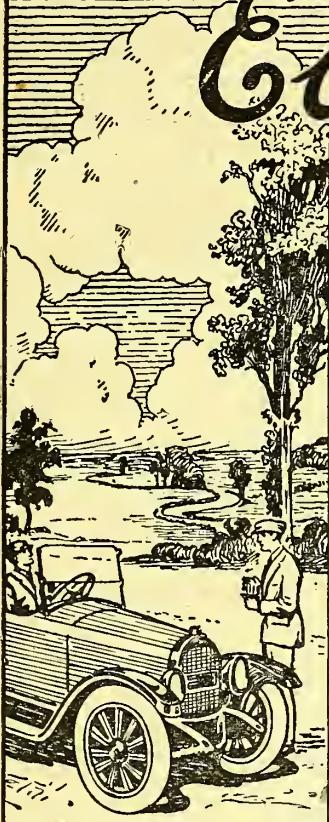
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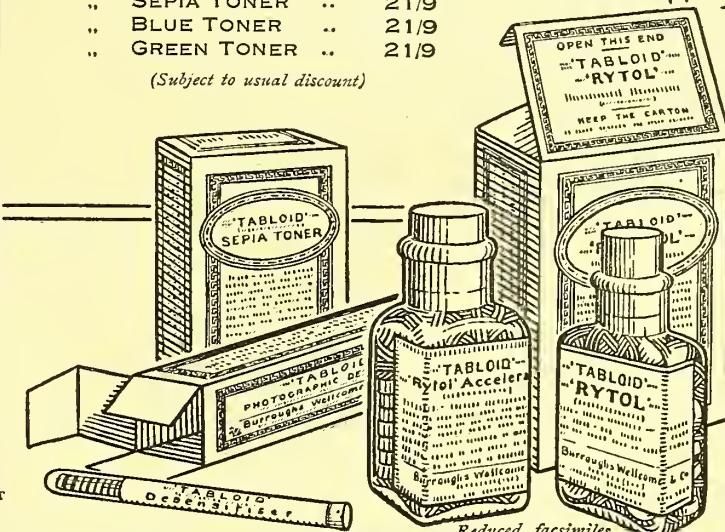
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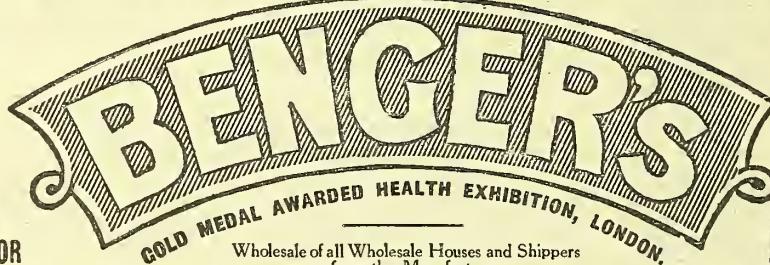


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Coming Events

This section is reserved for advance notices of meetings or other events. These should be received by Wednesday of the week before the meetings, etc., occur.

Wednesday, April 1

Pharmaceutical Society of Great Britain, 16 Bloomsbury Square, London, W.C., at 11 a.m. Council meeting.
Retail Pharmacists' Union (Devon Branch), 60 High Street, Exeter, at 3.15 p.m. Meeting.

Thursday, April 2

Manchester Pharmaceutical Association, Council Chamber, Houldsworth Hall, Deansgate, at 8.30 p.m. Annual meeting.
The Chemical Society, Burlington House, Piccadilly, London, W.1, at 8 p.m. Papers on "The formation of d-2:2:4-trimethylcyclohexan-3-one-1-carboxylic acid from d-camphorquinone," by C. S. Gibson and J. L. Simonsen, and "Aromatic esters of acylecgonines," by W. H. Gray.

English and Welsh News

The Editor will be obliged if subscribers will send him marked copies of newspapers containing items of interest for insertion in this or other news sections.

Contracts

The following tenders have been accepted by the bodies named:—

Colchester Guardians.—Mr. A. W. Nunn, Ph.C., drugs and sundries.

Cranbrook Guardians.—Mr. G. H. Moorhouse, chemist and druggist, Hawkhurst, medical appliances.

Faversham Rural Council.—Mr. E. Withers, chemist and druggist, drugs, etc.

Lancaster Corporation.—Bate & Gorst, chemists, drugs.

Lewes Guardians.—Surgical Manufacturing Co., drugs and appliances.

Lewisham (London) Borough Council.—The "Sanitas" Co., Ltd., A. C. Young & Co., Jeyes' Sanitary Compounds Co., Ltd., The United Alkali Co., Ltd., Middleton Bros., Ltd., disinfectants, etc.

Marylebone (London) Borough Council.—Burgoyne, Burbidges & Co., Ltd., A. Boake, Roberts & Co., Ltd., drugs, etc.

Portsmouth Guardians.—Manners & Hopkinson, drugs; B. Pratt & Co., dressings.

Romsey Guardians.—Mr. F. Oram, Ph.C., dressings.

Swindon and Highworth Guardians.—A. J. Shawyer & Co., drugs.

Birmingham

An instructive lecture on aluminium was given at the Chamber of Commerce by Mr. G. B. Brooke, F.I.C., on March 19.

The report of W. Canning & Co., Ltd., manufacturing chemists, Great Hampton Street, for the year ended December 31, 1924, shows a net profit of £42,371, compared with £35,229 in the preceding year. The amount carried forward is £6,697, and the reserve fund is now £25,000.

Liverpool

In anticipation of the construction of the Mersey Tunnel for heavy road traffic, the value of property and leases in the parts of Liverpool and Birkenhead most affected is rising.

A movement is afoot to boom Liverpool much more systematically as a shopping centre with exceptional facilities for the comfort and entertainment of visitors to the local attractions.

The Liverpool Branch of the Pharmaceutical Society was again well represented in London on March 18. Messrs. J. L. Hirst, H. Humphreys Jones, and F. Wokes, who all addressed the "Regulations" Conference, covered their 420-miles out-and-home journey and the meeting in once round the clock.

Miscellaneous

POISON-LICENCE APPLICATIONS.—Applications for a licence under Section 2 of the Poisons and Pharmacy Act, 1908, have been made to Somerset County Council by Mr. W. E. Brooks and Mr. A. E. B. Brooks, Weston-super-Mare.

WINE-LICENCE APPLICATIONS.—An application for a wine off-licence by Mr. H. C. Shaw, chemist and druggist, Basford, Stoke-on-Trent, has been refused. A similar application by Timothy White Co., Ltd., chemists, Herne Bay, was also refused.

STAFF ENTERTAINMENT.—The London staff of Burroughs Wellcome & Co. and their friends spent an enjoyable social evening at the Mecca Café, Ludgate Hill, E.C., on March 20. The series of winter entertainments will conclude with the dance which is to be held shortly.

FIRES.—The following outbreaks of fire have been recorded since our last report: An outbreak of fire which occurred on the premises of Mr. J. F. Collin, Ph.C., Wymondham, recently, was caused by the sun's rays igniting some paper in the window. The damage was slight.—A serious fire broke out on the premises of E. Pollard & Co., Ltd., shop-fitters, Clerkenwell Road, London, E.C.1, on March 21. The loss is considerable. Arrangements have been made to carry on business as usual from the company's other establishments.

Poisoning.—An inquest was held by the West London coroner, on March 19, on the body of Emma Lewis, Ladbrooke Grove, wife of a registration agent. Mr. Nathaniel Castle, "chemist," Portobello Road, W., deposed that the deceased had recently purchased an ounce of oxalic acid from him. It was correctly labelled, and Mrs. Lewis was warned of its poisonous nature. She had frequently purchased the acid from him previously. A medical witness stated that death was due to cardiac failure after taking oxalic acid. A verdict of "Suicide while of unsound mind" was recorded.

ROYAL INSTITUTE OF PUBLIC HEALTH.—An international conference, convened by the Royal Institute of Public Health, will be held at Brighton and Hove from May 28 to June 1. The Mayor of Hove, who has been in office since 1922, is Alderman William Jago, F.I.C., F.C.S., barrister-at-law, the contributor of articles to *The Chemist and Druggist Diary* on the law of chemists' proprietaries (1907) and the principles of patent law (1908). Alderman Jago was appointed headmaster of the Brighton School of Science in 1878, and in the course of his analytical practice has specialised in the chemistry of food. His books on inorganic chemistry and the chemistry of wheat, flour and bread are widely known.

IN THE COURTS.—At Ely Police Court, on March 17, David White, described as a chemist's manager, was ordered to pay £2 a week as maintenance for his wife and 10s. a week for a child, with £5 costs.—In Blyth County Court, recently, Mr. Alexander Wilson, chemists' agent, was awarded the sum of £14 as damages against William Anderson, motor driver, in respect of the hire of a lorry.—At Marylebone Police Court, London, on March 24, William Cockerton, packer, and Arthur Cockerton (16), his son, were bound over and placed on probation on a charge of stealing and receiving by finding a wallet containing a diamond ring and other articles, value £30, the property of Mr. Henry Neville, an assistant with John Bell & Croyden, Ltd., chemists, Wigmore Street, W. It was stated that Mr. Neville dropped the wallet from his pocket while filling a gas cylinder, and the lad, a messenger employed by Messrs. Bell & Croyden, picked it up and took it home to his father. At South-West London Police Court, on March 25, the summons against James Wording, baker, in respect of an alleged excess of "boron preservative" in cakes (*C. & D.*, March 21, p. 405), was dismissed.

PRIVATE ARRANGEMENT.—A meeting of the creditors of Mr. J. W. Richardson, trading as Richardson's Cash Drug Stores, Market Hill, Framlingham, was held in London on March 24, when Mr. Parkin S. Booth, trustee, reported that liabilities amount to £533 18s. 3d., of which £308 14s. 8d. was due to trade creditors. The assets consisted of stock estimated to produce £150, and other items, making total assets of £178 (net, £160 12s. 9d.). It was stated that the debtor commenced business on his own account in March 1923, having no capital. He borrowed £105, and obtained the lease of the lock-up premises for seven years at a rental of £35 per annum. The turnover for the first year was £1,200, but it had gradually decreased owing to the debtor's difficulty in obtaining stock. His present turnover was about £10 or £11 a week. The photographic branch of the business was gradually increasing. The debtor's drawings had been at the rate of about £4 weekly. No proper books of account had been kept. A deed of assignment had been executed on March 17. Debtor had no offer to make, but was desirous of continuing the business. It was decided to confirm the deed of assignment. The following are among the creditors: Amalgamated Photographic Manufacturers, Ltd., £15; John Bell, Hills & Lucas, Ltd., £22; Grimwade, Ridley & Co., £49; J. Grossmith & Son, Ltd., £13.

Irish News

Brevities

At the annual meeting of the Northern Ireland Branch of the National Federation of Sub-Postmasters, held in Belfast, Mr. J. F. Grimes, J.P., R.D., Pomeroy, was elected on the committee. Mr. Jas. Henderson, R.D., presided at the meeting.

At the District Court, Dublin, James Knight, described as a chemist, Dame Street, was summoned before Mr. Collins, K.C., on eight counts in connection with the sale of methylated spirits. Defendant was fined £10 (the minimum penalty) on each of four charges of not recording, and £10 on a charge of not getting the purpose for which the spirits were required in another case.

Mr. Charles Williamson, R.D., is opening a new drug store at 260 Springfield Road, Belfast. He has been for some time with Mr. Samuel McDowell, Shankill Road. Mr. W. J. Heatrick, who is opening a new pharmacy at Cliftonville Circus, Belfast, served his time with Mr. H. J. Manly, Ballybay, co. Monaghan, and has been latterly manager to Mr. W. J. Henning, Larne. Mr. Robert Kerr, Ph.C., who has opened a new pharmacy at 34 Market Street, Lurgan, served his time with Mr. A. W. Mann, Ph.C., Lurgan, and has latterly been manager for him in that town. Mr. J. H. Cronhelm, Ph.C., is opening a new pharmacy at Belmont Road, Belfast. Mr. Cronhelm served his time with Mr. W. F. Taylor, Ph.C., Enniskillen, and has latterly been with Lynass & Co., Ph.C., Ann Street, Belfast. Mr. J. E. Hudson, R.D., has opened a new drug store at Kilkeel, co. Down. Mr. Hudson was formerly with O'Hare & O'Hagan, Newry. Mr. R. J. Dick, Ph.C., will shortly open a new pharmacy at Ballymena. Mr. A. M. Cullen, M.P.S.I., has opened a pharmacy at Letterkenny.

Scottish News

Brevities

Mr. A. M. Wood, chemist and druggist, Grangemouth, has been appointed Vice-President of the local Merchants' Association.

The rambling section of Glasgow Pharmacy Club will visit the Scottish Co-operative Society's works, Shieldhall, on March 31. The meeting-place is the Main Gate, at 3 p.m.

A grant not exceeding £500 is to be made to the Botanical department of Edinburgh University by the Forestry Commissioners for research work in combating fungoid diseases.

Mr. F. C. Rheinbach, chemist and druggist, 249 Overgate, Dundee, has made considerable improvements at his pharmacy, which has long been carried on under the title of John Hodge and is now known as the Corner Pharmacy.

"Scottish chemists," writes a correspondent, "seem only now to be realising the portent of the new by-laws and there are signs of grave discontent. The average chemist must have help to carry on, and the dearth of suitable apprentices in the future will mean jobs for what in Scottish phraseology is termed the 'orra' man."

A PROFESSOR ON ADVERTISING.—Lecturing in London on March 9, Professor Green, professor of psychology in the University of Cardiff, said that the advertiser was the man who wanted to affect human behaviour. Advertising was undertaken with the object of making the multitude change their habits and of creating wants. In bygone days no teeth were cleaned, and men washed but rarely. Why had their habits changed? The doctors and dentists might claim a little of the praise, but by far the greater share went to the advertising campaigns of the dentifrice and soap manufacturers. Cold, logical presentation of the facts of a case was not adopted by the great majority of salesmen. The salesman was constantly adducing reasons for the indulgence of wishes, and was helping to incline his client further in the direction of his existing wishes.

South African News

From "C. & D." Correspondents.

"The Chemist and Druggist" is supplied weekly to members of all the Chemists' Societies in South Africa.

Cape Province

MEDICAL, DENTAL AND PHARMACY BILL.—In the Union House of Assembly, on February 18, on the motion of Dr. Malan (Minister of Public Health), the Medical, Dental and Pharmacy Bill was read a first time, the second reading being set down for February 26. In the Senate, on February 19, Senator Clayton, who asked the Minister of Health whether the list of medical practitioners, chemists and dentists, promised on September 1, 1924, had yet been published, was told that, in view of the considerable cost of publishing the lists in question, and of the reintroduction to Parliament of the Medical, Dental and Pharmacy Bill, the enactment of which would render the present lists obsolete, it had been decided to postpone their publication. "Any hopes of that Bill going through this session?" asked Senator Dr. Watkins, referring to the Medical and Pharmacy Bill. "That depends very much on this House," answered Dr. Malan, "no less than on the other. We have good hopes of getting it through Parliament at last," he added.

ANTHRAX IN A SHAVING BRUSH.—In the Cape House of Assembly on February 24, Dr. Malan, the Minister of the Interior, in reply to a question referring to the death of a young man from anthrax, caused by a shaving brush made in Japan, said that in 1920, as a result of extensive bacteriological examinations, several consignments of Japanese shaving brushes imported into the Union were found to contain anthrax infection. Warning notices were widely published, local authorities and others concerned were urged thoroughly to disinfect any such brushes in stock, and further importations of Japanese shaving brushes were prohibited. Three cases of infection from such brushes were reported in 1921, but in each instance the brush had been imported before the issue of the prohibitive proclamation. Representations were made by the Japanese Government, and specific assurances given of the institution in Japan of an effective system of sterilisation of all brushware intended for export. This Government—in January 1922—agreed to accept these assurances and to withdraw the prohibition, with the proviso that future importations would be bacteriologically examined, and if any anthrax-infected brushes were discovered the prohibition would be re-imposed and would not again be withdrawn. No infected consignments had since been discovered, and the recent fatality at Pietersburg was the first case reported since. The origin and history of the brush used in this case could not be traced. The system of bacteriological examination of samples from consignments of brushes on importation was being continued, and further warning notices were being issued to local authorities and the public.

Orange Free State

BUSINESS CHANGES.—Mr. S. Shar has bought the pharmacy at Wepener, opened by Mr. T. D. Andrews some time ago. Mr. Andrews has acquired the business at Boscherville, carried on for many years by Mr. Wilkins.—Mr. R. S. Noyes, formerly of Parys, who sold his business to the Parys Pharmacy, Ltd., on leaving South Africa for England, has recently returned, and has taken over the business at the mining town of Koffyfontein.

At a recent Blackburn auction the house and shop in King Street, Whalley, at one time in the occupation of the late Mr. Alfred Camm, chemist and druggist, were purchased by Mr. Dawson, chemist and druggist, formerly of King William Street, Blackburn, for £950.

BRUSSELS EXHIBITION.—The formation of a company, "Société Anonyme de l'Exposition Universelle et Internationale de Bruxelles. 1930," has been sanctioned by the Belgian Government, the object of which is to arrange an international exhibition in Brussels in 1930. Already over 17,000,000 francs have been subscribed.

French News

From the "C. & D." Paris Correspondent.

M. BLAISE, who succeeds Professor Albin Haller in the chair of organic chemistry at the Sorbonne, was a pharmacy student and a house pharmacist of the Paris hospitals in his younger days.

M. TIFFENEAU, chief pharmacist of the Boucicaut Hospital and assistant professor of therapeutics in the Paris Faculty of Medicine, has been elected professor of chemistry in the Paris Faculty of Sciences.

THREE PROFESSORS FROM THE FACULTY OF PHARMACY.—Professor Délépine has been selected President for 1925 of the Mineralogical Society; Professor Perrot, Vice-President of the Therapeutical Society; and Professor Lutz, President of the Botanical Society.

PASTEUR COLLECTION.—The committee for the distribution of the funds raised on Pasteur Day has decided to allot 2,143,000 francs to laboratories of physical science, and 1,346,000 francs to chemistry. Among the smaller sums accorded to other sciences, we note 640,000 francs to botany and 105,000 francs to microbiology. Nearly 9,000,000 francs were raised.

STUDIES ON COLONIAL SUBJECTS.—The new Minister for the Colonies, M. Daladier, on taking office last year, offered prizes for the best scientific work on colonial subjects. Of the awards, consisting of one gold, two silver, and three bronze medals, pharmacist-major Rose takes a silver medal for his study of the preparation and chemical composition of "nuocman," the Annamites' favourite condiment.

ATTACK ON PHARMACIST.—Raphael Stein, an Argentine citizen, was brought up before the criminal court some time ago on a charge of assault on an old pharmacist, aged eighty-eight, M. Milhaud, who was attacked in his shop in the Rue St. Louis-en-l'Île, Paris, and left in an unconscious condition. Stein was sentenced to five years' penal servitude, but appealed. The higher court adopted the view that the new evidence produced left his guilt in doubt, and the prisoner was liberated.

THE 1924 PRIZE AWARDS of the Paris Faculty of Pharmacy have now been published. M. Péchéry takes the "fourth year" prize, no "third year" prize being awarded. The "second year" first prize goes to M. Pichon (who also receives the second Puignet Prize), and the second to M. Martin. The first prize among the first-year men is taken by M. Chelma, the second by M. Castel. Three men and five ladies are "honourably mentioned." In practical laboratory work all the "firsts" are men, except in analytical chemistry, where Madame Malmanche heads the list.

THE SUNDAY CLOSING DISPUTE.—Several pharmacists condemned by police courts for remaining open on Sundays have successfully appealed to the Eleventh Correctional Tribunal. This higher court held that as Article 38 of Chapter II of the Labour Code expressly confers on pharmacists the exceptional privilege of giving their employees weekly rest by rotation, this tacitly infers that they are empowered to remain open seven days a week. Article 43, on which the Prefect's decree is based, contains neither explicitly nor implicitly any provision abrogating Article 38, and if officials make decrees contrary to law, the Court adds, such edicts are null and void. Delegates from the Pharmacists' Association and the Assistants' Union waited on the Minister of Labour in reference to this decision, and informed him they intended to carry up the case to the Court of Cassation. The Minister said that this judgment, clashing as it did with decisions of certain other courts, could not be regarded as final. For his part, he intended to summon all persons infringing the decree until such time as the supreme French Court gives its definite finding. The opponents of compulsory closing naturally attack the Minister for criticising the decision of the Court, and—what is more to the point—continue to open regularly and reap the benefits of a seven days' trade, made all the better by the fact that the majority of their competitors are closed.

American Notes

By "The Man from London."

ACCORDING TO A RECENT REPORT of the National Association of Retail Druggists, U.S.A., business conditions throughout America were far from satisfactory during 1924. Lack of employment in the larger cities and industrial centres, combined with the low price of farm products in agricultural districts, have all had their bad effect upon business in general.

TURPENTINE AND RESIN STATISTICS.—According to the U.S. Bureau of Chemistry, Washington, D.C., during 1923, 6,704,000 gallons of turpentine and 902,000 round barrels of resin were used by certain industries in the United States, against 8,178,900 gallons of turpentine and 754,927 round barrels of resin during 1922.

EXCELSIOR.—A recent bulletin of the Harvard Bureau of Business Research shows a market increase in the sale of jewellery in drug-stores during the past three years. The "North-Western Druggist" says, "While druggists have not yet begun to sell silk stockings or white collars, many of them are selling profitably a line of jewellery. Customers come in to buy anything from a postage stamp to a nursing bottle, and see these goods displayed. Sales result. Furthermore, the druggist is equipped by inclination and training to sell this type of merchandise successfully."

THE CRAMTON BILL.—According to the "Pacific Drug Review," "in its present form creates a division of industrial alcohol and chemistry under the supervision of a chief to be appointed by the national prohibition commissioner." Representatives of retail druggists insist that the Bill should be amended so as to give the appointment of the chief of this division to the Secretary of the Treasury. There is no objection to the national prohibition commissioners being given absolute power in the enforcement of the Volstead Act, nor is there any objection to placing the prohibition unit under civil service, from top to bottom. As drawn at present, "it must be amended, or defeated, in the opinion of national organisations representing users of alcohol and all other kinds of liquor for medicinal and industrial purposes."

POISONOUS SUBSTANCES IN COSMETICS.—Too many cosmetics contain poisonous preparations, according to Dr. H. N. Cole ("Journal of the American Medical Association"), who quotes lead, mercury, bismuth, arsenic, compounds of silver and paraphenylenediamin. This last-named chemical comes in for very severe condemnation. Attention is drawn to the large quantities (in one case, 23 per cent.) of lead acetate used in hair-dyeing preparations. In Cleveland, two skin bleaches on the market, when examined by the city chemist, gave in one instance 33 per cent. of ammoniated mercury (white precipitate) and the other 50 per cent. The American Medical Association reports that in its analyses of bleaches and freckle lotions it has found mercuric chloride in solution as high as 1:200, and it can readily be seen what danger an uneducated woman runs in using such a dangerous preparation.

AMERICA'S DRUG TRADE.—The National Wholesale Druggists' Association reports that the total volume of business done by the drug trade in the United States amounts now to \$800,000,000. In 1850 there were only 6,139 "apothecaries and druggists"; now there are 49,000 "dealers in drugs and chemicals and pharmacists." In 1880, there were less than 100 pharmaceutical manufacturers in this country, but these have increased, until in 1924 the number is more than 400. In the same period the number of patent medicine manufacturers increased from 563 to 1,436, and those making perfumery and cosmetics increased from 67 to 422. The N.W.D.A. is authority for the statement that nowadays a well-stocked wholesale house carries at least from 45,000 to 60,000 separate articles, and the retailer carries from 8,000 to 12,000 items at all times. The number of proprietary articles sold now aggregates more than 50,000.

Colonial and Foreign News

ITALIAN PHARMACOPÆIA.—Commendatore Luigi Casazza has been appointed a member of the Commission for the revision of the Italian pharmacopœia, to represent the druggists.

BELGIAN RADİUM PRODUCTION.—The output of radium by the factory in Oolen now amounts to 30 to 40 grams annually, the product having a content of 95.98 per cent. of pure radium, and is sold at \$70 per milligram.

ARGENTINE DISPENSING REGULATIONS.—A modification in article 204 of the Argentine penal code imposes a fine of 500 to 2,000 pesos on pharmacists supplying medicines not of the kind, quality or quantity stated on a medical prescription, or not answering the prescriber's requirements. If through such action the patient's health is affected, or it is the cause of his death, a term of three to five years' imprisonment may be inflicted.

YUGO-SLAV OPIUM FACTORY.—The Yugo-Slav Government, having definitely decided not to restrict the cultivation of the poppy and production of opium, all of which is exported, it is now reported from Belgrade that the Minister of Commerce and Industry is engaged in considering a number of applications from foreign financiers, and also from manufacturers of alkaloids, including French and German firms, for concessions to establish factories for the production of opium and the manufacture of opium alkaloids. Among the applicants figure two Yugo-Slav chemical works: Kastel in Karlovac and Isis in Zagreb. It is proposed to erect the opium factories, if permission is granted, in Skoplje, the centre of the opium production in Southern Serbia. It is stated that hitherto E. Merck, Darmstadt, has been one of the principal buyers of Serbian opium.

EDUCATIONAL STANDARDS FOR WHOLESALERS.—The Hungarian Trading Law of 1922 requires that prior to opening a shop a retailer shall adduce proof of possessing an adequate knowledge of the business he is about to engage in, but this stipulation does not apply to wholesalers. Thus, whereas a retail druggist is required to have an expert knowledge of the drugs he sells, anybody may establish himself as a wholesale dealer in drugs, etc. A movement is now on foot to remedy this illogical state of affairs, particularly with a view to restricting the wholesale traffic in medicaments within reasonable limits. This is especially necessary in view of the enormous number of firms which sprang up during the war, when it was extremely difficult to obtain supplies of chemicals and raw materials, many of which have since disappeared. Prior to the war, four wholesale drug houses sufficed to supply the requirements not only of the pharmacies of a much larger Hungary, but also those of many businesses in the Balkan States.

NARCOTICS FOR MEXICO.—A Presidential decree enforced on January 15, 1925, establishes new regulations for the importation into Mexico of narcotics, i.e., poppies, opium, morphine, cocaine, their preparations, salts and derivatives. An import licence, to be filled up in duplicate, must be obtained from the Mexican Department of Public Health if the preparation contains more than 2 per cent. of opium, or coca extract; 1 per cent. of extract of opium, 0.2 per cent. of morphine, morphine salts or derivatives (except codeine and dionin); 0.1 per cent. of cocaine, its salts or derivatives; 20 per cent. of coca leaves. An import licence is not required for codeine or dionin. Invoices for narcotics will only be *vised* by Mexican consuls provided no other goods are included, and that, in addition to the Mexican import licence, an export licence issued by the government of the country of origin is presented together with the invoice. The importation of narcotics through the post is forbidden, and consignments must pass through the custom houses of Nogales, Laredo, Vera Cruz, Progreso, La Paz or Mazatlan; however, they may be cleared in Mexico City provided they pass through one of the above custom houses having direct railway communication with the capital. It is interesting to note that the importation of heroin, its salts and derivatives, into Mexico is now absolutely prohibited, and the same applies to smoking opium, and Indian hemp in any form.

Legal Reports

Unauthorised Possession.—At Kingston-on-Thames Police Court, on March 23, the hearing of the case in which Loftus G. M. Le Champion, Richmond, was charged with being in unauthorised possession of morphine (*C. & D.*, March 14, p. 373) was concluded. Mr. R. E. Otter, defending, now said that the defendant had on two occasions been given hyoscine with a view of curing him of morphine addiction. A Harley Street practitioner having given evidence, the defendant was bound over for three years on condition that he abstained from drugs. The Bench complimented the chemist (Mr. R. Evans), who had given evidence at a previous hearing, for the action he took in communicating with the police.

Conspiracy to Defraud.—At London Sessions, on March 24, Solomon Abraham Diamondstein, Morris Lipski and Daniel De Kovnick pleaded "Guilty" to charges of conspiring to defraud and of false pretences (*C. & D.*, March 7, p. 336). Mr. G. B. McClure, who appeared for the Director of Public Prosecutions, said the case constituted what was ordinarily known as a "long-firm" fraud. In passing sentence, Mr. Lawrie said he was satisfied that Diamondstein found two dupes to assist in his scheme—one because he was in difficulties, and the other because he was in love with his daughter. Diamondstein was sentenced to nine months' imprisonment in the second division, and the other two defendants were bound over.

Merchandise Marks Act Case.—At Bow Street Police Court, London, on March 25, Littlewood Brothers, Ltd., St. George's Market, London Road, S.E., were summoned on the information of F. W. Blyth for having on December 17, 1924, at their shop in York Street, Covent Garden, W.C., unlawfully had in their possession goods for sale—to wit, a bottle of disinfectant fluid labelled "Lysol"—to which a false trade description—to wit, "Lysol"—was applied, contrary to Section 2 of the Merchandise Marks Act. They were also summoned for having sold the same. The Freesol Co., Ltd., 6 Hardwidge Street, Snow's Fields, S.E., were summoned by the same complainant for having applied to a bottle of disinfectant fluid labelled "Lysol" a false trade description. There was also a summons for selling the same. Mr. Potter (instructed by Mr. C. H. Kirby) appeared in support of the summonses, and asked for an adjournment. The defendants were not represented in court at the moment, but it was understood that they assented to the application. The cases were accordingly adjourned for a week.

Dispensing Tested.—At Woolwich Police Court, London, on March 24, H. N. Dickinson, Ltd., chemists, 3 Station Parade, Eltham, S.E., were summoned for selling a mixture not in accordance with the prescription of the purchaser, i.e., deficient in sodium bicarbonate to the extent of 26.5 per cent. Mr. Jenkins, assistant solicitor to the Council, prosecuted. Mr. H. Glyn-Jones, counsel for the defence, said he could not dispute that there had been an offence. The business in question belonged to Mr. Dickinson, who appeared before the Court as secretary of the company, and a Mr. Russell, who was a qualified chemist. Since the business was opened in 1922 Mr. Russell had not left the premises during business hours. When the Borough Council's agent called Mr. Russell was attending the funeral of a friend, but before he went out he gave instructions to an assistant not to dispense while he was away. The assistant, however, tried "his prentice hand." Mr. Jenkins explained to the magistrate that the Borough Council had prescriptions made up for analysis at the request of the National Insurance authorities. A fine of 20s., with 21s. costs, was imposed.

Arsenical Borax.—At Old Street Police Court, London, on March 20, Richard Hayward, 138 St. John's Road, Hoxton, was summoned for having sold "pure borax" containing arsenic 15 parts per million in excess of the British Pharmacopoeia limit for purified borax. A witness having given evidence of purchase, the defendant said: In asking for the borax, did you say "pure" under your breath?—No. The Magistrate: I don't see

that, as at present advised, it matters whether she said "pure" or not. The Defendant: We are selling it as a domestic stores. Mr. Cyril Ray (prosecuting): If you specifically ask for pure borax, there can be no doubt as to what you want. The Magistrate (to defendant): What do you say that they buy it for?—To mix with soft soap as a shampoo for the hair. We buy it from the wholesale people and know nothing about the constituents. There are hundreds of cases where ladies come to me for borax for their babies, and I send them to the chemist, because our borax is not suitable. Mr. Ray said that the Shoreditch Borough Council wanted it known that that was not pure borax, but commercial borax. The Magistrate: Especially if it is true that people use it for washing out children's mouths. It is important that people should know if they want borax to use internally they ought to buy it at the chemist's and not at the oilshop. The defendant said he would have a notice printed to the effect that their borax was only commercial borax. He was ordered to pay 23s. costs.

Claim for Damage to Stock.—In Shoreditch County Court, London, on March 24, Mr. Sidney Marshall, chemist and druggist, 78 High Street, Kingsland, E., sued Mr. Solomon Criger, dentist, of the same address, to recover the sum of £37 5s. 6d. as damages to stock and premises, due, it was alleged, to the defendant, who was the plaintiff's father-in-law, allowing water to percolate through the ceiling. The plaintiff claimed for damage to 3 lb. of potassium iodide, £2 18s. 6d.; 50 lb. of citrate of magnesia, £2 10s.; 20½ doz. bath salts, £7 13s. 9d.; 41 lb. of wool, £3 1s. 6d.; four gross of seidlitz powders, £1 13s.; and 20,000 aspirin tablets, £5. There was an allowance of £2 15s. 6d. for salvaged wool and aspirin tablets, leaving £20 1s. 3d. claimed on these items. Mr. Neate appeared for the plaintiff, and Mr. Arnold Baker, barrister, for the defence. It was stated that the plaintiff had a shop and parlour, while the defendant carried on the business of a dentist upstairs. In April of last year the plaintiff had to complain of water coming through the ceiling, which damaged parcels of drugs. An action in connection with this was settled. In July the same thing happened again, and finally he found that the damage now claimed for had been done. In answer to Judge Cluer, the plaintiff said that the majority of his drugs came in cartons, and aspirin tablets in bags. Citrate of magnesia was in tins, and the iodide of potassium in paper. Judge Cluer: Indeed! What a lovely explosion it would make. Plaintiff: It does not explode, your honour. Judge Cluer: No, not explode, but it goes off with a lovely bubbling noise—we used to put it in the inkpots at school. (Loud laughter.) A surveyor called on behalf of the plaintiff said he thought the damage to the ceiling in the shop was due to a faulty union in the water supply of the defendant. The damage in the shop parlour was caused through a large accumulation of dirt on the roof, which caused the water to take a wrong course. Judge Cluer said that in those circumstances the defendant could not be held responsible for the damage to the chemist's stock, as it was not his business to clear away dirt on the roof. As to the damage in the shop, he should allow £5 5s., and for some damage done by the defendant in removing some electric lights he would allow a further £1 10s. Judgment was accordingly entered for the plaintiff for £6 15s., with costs.

Breach of Agreement Alleged.—In the Chancery Division of the High Court, London, on March 25, Lever Brothers, Ltd., Port Sunlight, were sued by Mr. Axel Wallenberg, Swedish Minister to the United States, for alleged breach of an agreement whereby the defendants contracted to buy for the plaintiff a large block of shares in a Swedish company called Barnängens Kemiska Fabrikens Aktie-Bolaget (chemical manufacturing company). Sir John Simon, K.C., Mr. Clauson, K.C., and Mr. Bischoff appeared for the plaintiff; Mr. Maughan, K.C., Mr. Bennett, K.C., and Mr. Turner were for the defendants. Sir John Simon said the contract was contained in letters of October and November 1920, by

which, the plaintiff contended, the defendants had bound themselves to acquire for him a large number of shares in a very large company with a capital of something like 5½ million kroner (the kroner running about 18 to the £). The company manufactured perfume, soap and like commodities. After the alleged contract was entered into (and, as plaintiff suggested, it might well be because of Messrs. Lever's breach of contract), the Swedish company went into liquidation in March 1921. Mr. Wallenberg, who was prepared to give evidence, was a large shareholder in the Barnangens company and the nature of the contract was that he contracted to sell and procure the transfer to Messrs. Lever of a large block of shares which they undertook to accept on certain terms defined in the letters. It was alleged that not long afterwards defendants repudiated the contract. It appeared from the correspondence that Lever Brothers were anxious to increase their holding in the Swedish market for the commodities they produced, and there were various ways in which that could be done. The question was whether in shifting from one scheme to another they had not bound themselves by contract with the plaintiff, who had contracted to sell the shares to them. The defence was, first, that there was no contract; second, that the contract (if any) was subject to certain conditions which plaintiff did not fulfil; third, that the contract was impossible to perform, having regard to English law; while the fourth defence was a half-hearted suggestion that the plaintiff was to blame because of the impression the defendants got of the value of the enterprise they were proposing to buy. The defendants also suggested that the contract was got rid of by subsequent negotiations. Lever Brothers appeared anxious to keep everybody at the end of the string, and their position was that if they could only keep certain people off, Barnangens would go into liquidation; and when the bank to which they owed money foreclosed, Lever Brothers would be able to acquire the assets of the company for a mere song. That was a legitimate business calculation, provided that there was no contract. Counsel went on to outline a second action against Messrs. Lever Brothers brought by a Stockholm bank, the Aktiebolaget Malarebraken, for a declaration that the plaintiffs were entitled to the benefit of a guarantee given by Lever Brothers for the payment of 4½ million kroner, or such sum as should remain due to the bank from Barnangens. The hearing was adjourned.

British Oxygen Co., Ltd., v. Liquid Air, Ltd.—In the Chancery Division of the High Court, London, on March 25, Mr. Justice Romer heard a motion by the British Oxygen Co., Ltd., to restrain Liquid Air, Ltd., from circulating a letter written by the plaintiffs' Lancashire agent to Tanks & Drums, Ltd., on December 17, 1924, making quotations for the supply of oxygen, and from publishing photographic copies thereof. Mr. Upjohn, K.C., for the plaintiffs, said they were formed in 1886, and carried on the business of manufacturing and supplying oxygen. They also manufactured and sold plant for the manufacture of oxygen. The defendant company, which was formed in 1913, manufactured oxygen plant. The letter was written under special circumstances. The defendants were minded to become rivals of the plaintiffs in Bradford, and were endeavouring to persuade firms there to buy their plant and manufacture for themselves instead of taking supplies of oxygen from the plaintiffs. Tanks & Drums, Ltd., were old and large customers of the plaintiffs, who, naturally, did not want to lose them, and so they instructed their district agent to write the letter making special quotations on condition that Tanks & Drums, Ltd., should take a certain quantity and not set up or instal any plant for the purpose of supplying themselves. If not, a higher price would be charged. This letter was shown by Major Thornton, managing director of Tanks & Drums, Ltd., in breach of the plaintiffs' rights, to a representative of the defendants, who proceeded to have photos of it made. The defendants sent one copy to their stockbrokers on the Stock Exchange with a request to show it to other people on the Stock Exchange who were interested in dealings in the plaintiff company's shares. The result

was an immediate fall in the value of the plaintiff company's shares. The letter was used by the defendants to convey the impression that the effect of their competition was such that the plaintiffs had to reduce their price, and that at this reduced price there was no hope of the plaintiffs making a profit. It was admitted that two other photos were shown to people in the trade for the purpose of influencing them to deal with the defendants. The plaintiffs based their case on copyright and the fact that this was obviously a confidential communication. It was a breach of confidence on the part of Major Thornton to show it to the defendants. Sir Henry Slesser, K.C., for the defendants, submitted that the letter was an unfair attack upon their business, and was not a proper subject for the protection of the Copyright Act. For a very long time the plaintiffs had in various ways interfered with the defendants' business. They tried to prevent them raising capital; they went to the Committee of the Stock Exchange to prevent defendants getting a quotation; and this letter was the culmination of a series of attempts to prevent them getting contracts. The letter was a threat to Tanks & Drums, Ltd., that they would only get preferential treatment if they refused to deal with the defendants. The defendants claimed that they were entitled to criticise that letter. There had been a very bitter and protracted rivalry between the two organisations. Mr. Upjohn contended that anything the plaintiffs had done was in lawful competition with the defendants, and read affidavits denying the suggestions of unfair attack's on their business. Sir Henry Slesser also read affidavits denying that the defendants' brokers had any interest in the plaintiffs' shares. The hearing was adjourned.

Retail Pharmacists' Union

Sick-room Spirit

THE secretary of the Retail Pharmacists' Union sends us the following formulas for preparations for preventing bedsores, which he is authorised to publish by the Commissioners of Customs and Excise. Permission to compound these formulas with industrial methylated spirit must first be obtained from the Secretary, Board of Customs and Excise, Customs House, Lower Thames Street, London, E.C.3 :—

1	Tannin	...	...	96 grains
	Boric acid	...	...	96 grains
	Industrial Methylated			
	Spirit to	...	...	1 pint
2				
	Castor oil	...	...	1 uncno
	Industrial Methylated			
	Spirit to	...	...	1 pint
3				
	Castor oil	...	...	½ ounce
	Boric acid	...	...	96 grains
	Industrial Methylated			
	Spirit to	...	...	1 pint

The addition of methyl salicylate (½ dr. to a pint) has been sanctioned, and this addition may be made to each formula if preferred. Liability to medicine stamp duty should be borne in mind in drawing up the label for the preparations.

Staffordshire (N.).—At a meeting of the North Staffordshire Branch, held on March 3, Councillor Kemp (President of the local branch) in the chair, Mr. Mallinson, after summarising the events leading to the formation of the Retail Pharmacists' Union, addressed himself specially to those who were not yet members. He described the work of the Union, pointing out that although they were out to protect and, if necessary, indemnify the chemist against untoward happenings in the course of business, they were prepared to help in many ways not quite so well known. These he proceeded to outline. At the conclusion of the address Mr. W. E. Cropper proposed and Mr. J. A. Dale seconded a vote of thanks to Mr. Mallinson.

New Companies

and Company News

P.C. means Private Company and R.O. Registered Office.

D. J. BURKE & PARTNERS, LTD. (P.C.)—Capital £100. Objects: To carry on the business of chemists, druggists, drysalters, oil and colourmen, etc. Solicitors: Wood & Sons, 1 St. Andrews Hill, London, E.C.2.

MAORIX, LTD. (P.C.)—Capital £10,000. Objects: To carry on the business of chemists, druggists, drysalters, oil and colourmen, etc. The subscribers (each signing for one share) are: J. Coke and Lord Islington. The subscribers are to appoint the first directors. Solicitors: Pakeman, Son & Read, 11 Ironmonger Lane, London, E.C.3.

EVANS TOILET PREPARATIONS, LTD. (P.C.)—Capital £1,000. Objects: To acquire certain formulæ for the preparation of hair dressings, applications or other preparations applicable to the hair, scalp, face and hands, and to adopt an agreement with A. H. Nudis. Solicitor: E. D. C. Lord, 124 High Street, Aldgate East, London, E.1.

A. A. WILLIAMSON, LTD. (P.C.)—Capital £500. Objects: To acquire the drug store carried on by A. A. Williamson at 259A Nottingham Road, Ilkeston, and to carry on the same and the business of manufacturing chemists, druggists, photographic dealers, opticians, etc. The directors are: A. A. Williamson and Mrs. M. G. Williamson. R.O.: 259A Nottingham Road, Ilkeston.

J. & E. MORTON, LTD. (P.C.)—Capital £20,000. Objects: To acquire the business of a tar and ammonia distiller carried on by F. Morton at Milnsbridge, near Huddersfield, as "J. & E. Morton," and to carry on the same and the business of manufacturers of and dealers in chemical products, manufacturing chemists, etc. R.O.: Pollard Street, Milnsbridge, near Huddersfield.

MERRILLS, LTD. (P.C.)—Capital £3,000. Objects: To acquire the business of bird seed specialists, now carried on at 20 Paxton Place, Gipsy Road, West Norwood, as "Merrills," and to carry on the business of corn and seed merchants, millers, chemists, manufacturers and importers of bird foods, etc. The directors are: F. W. Gichard and L. Wilmin. R.O.: 20 Paxton Place, Gipsy Road, West Norwood, London, S.E.27.

ANN SOMERS, LTD. (P.C.)—Capital £1,000. Objects: To carry on the business of manufacturers of and dealers in toilet preparations and articles, fancy goods, perfumery, hair preparations, chemical, industrial and other preparations and articles, compounds, oils and pigments, etc. Lillie A. Monroe, 4, Elm Court, Temple, E.C.4, chemist, is first governing director. R.O.: 3, Newcastle Place, Clerkenwell, London, E.C.1.

UNIVERSAL GLASS CO., LTD. (P.C.)—Capital £3,000. Objects: To adopt an agreement with L. R. A. Bate and W. S. Swabey, and to carry on the business of manufacturers, importers and exporters of, agents for, and dealers in all kinds of glass, glass bottles, medical and scientific glassware, siphons, feeders, filters, accumulators, electric light bulbs and shades, bottle stoppers and closures, etc. R.O.: 66 Victoria Street, London, S.W.1.

WILLIAMSON & HOGG, LTD. (P.C.)—Capital £6,000. Objects: To acquire the business of chemists, druggists, tea and coffee dealers and Italian warehousemen, table-water manufacturers, and wholesale, manufacturing and analytical chemists, carried on by J. F. Hogg and H. S. Williamson at 102 Bedford Street and 9 & 11 Union Street, North Shields, as "Williamson & Hogg." The directors are: J. F. Hogg and H. S. Williamson, both chemists.

ANNETTE BAMFORD, LTD. (P.C.)—Capital £500. Objects: To carry on business in London and elsewhere for the purpose of hygienic complexion treatment, electrolysis, manicure, chiropody, massage and treatment of the face and scalp and hair-dressing: to carry on business as manufacturers of or dealers in toilet requisites, perfumers, manufacturing and general chemists and druggists, etc.

The directors are: Mrs. C. G. M. Price and Miss F. M. Whiting. R.O.: 34 Walbrook, London, E.C.

VOILE & WORTLEY, LTD. (P.C.)—Capital £50,000. Objects: To acquire the business of liquorice manufacturers carried on by Voile & Wortley at 50 Bidborough Street, Euston Road, N.W., and elsewhere; to adopt an agreement with A. Kinder, T. Voile and F. Voile, and to carry on the said business and, among others, that of chemists, druggists, manufacturers of and dealers in provisions and confectioners, both solid or liquid, including all forms of liquorice and liquorice root, etc. The directors are: A. Kinder, T. Voile, F. Voile, and W. C. Bacon. R.O.: 50 Bidborough Street, Euston Road, London, N.W.

NATIONAL CHAMBER OF TRADE ("limited") omitted by licence of the Board of Trade.—Limited by guarantee, with not more than 1,550 members, each liable for £1 in the event of winding up. Objects: To acquire all or part of the property and liabilities which may lawfully be taken over of the National Chamber of Trade, whose principal office is at Buchanan Buildings, 24 Holborn, E.C.; to continue the work carried on by the Old Chamber, and particularly for the association of merchants, traders, and others, to originate, consider, organise, maintain and promote all such lawful measures, plans and schemes as may be calculated to benefit, improve, advance and secure the commercial and general rights and interests of members of the Chamber and of the trade of Great Britain and Ireland. The management is vested in a board, one of the members being Mr. R. C. Walshaw, 4 Market Place, Huddersfield. R.O.: Buchanan Buildings, 24 Holborn, London, E.C.

BURT, BOULTON & HAYWOOD, LTD., announce an interim dividend of 1s. per share, less tax, being 5 per cent. actual, in respect of year ending June 30, 1925.

COMPANIES DISSOLVED.—Notice has been given in "The London Gazette" that the names of the undermentioned companies have been struck off the register and the companies dissolved:—Chilblaino, Ltd.; Phosvis, Ltd.; Vigorine, Ltd.; Vitamines, Ltd.; Western Vinegar Co., Ltd.

PROVINCIAL INSURANCE CO., LTD.—The twenty-first annual report and accounts to December 31, 1924, show with £14,328 13s. 6d. brought forward from last year £62,367 14s. to the credit of profit and loss account. The directors recommend dividends of 10 per cent. on the ordinary shares, and 7 per cent. on the preference shares, whilst £6,166 is carried forward. The report states that the net premium income is £423,485, against £383,583 last year, and £52,333 ten years ago, thus showing the steady progress of the company. £3,000 is put aside as a special bonus for the staff.

SOUTHALL BROS. & BARCLAY, LTD.—The report of the directors for the year ended December 31, 1924, states that the accounts show that, after providing for bad debts, depreciation, corporation profits tax, income tax, and directors' remuneration, there is a balance of profit for the year of £31,672 7s. 5d. To this must be added the sum of £25,169 15s. 5d., carried forward last year, making a total of £56,842 2s. 10d. Out of this has been paid an interim dividend on Preference shares of £2,750, leaving a balance of £54,092 2s. 10d., which the directors recommend should be appropriated as follows:—Second half-year's dividend on Preference shares at the rate of 5 per cent. per annum (paid January 1, 1925), £2,750; year's dividend on Ordinary shares at the rate of 10 per cent. per annum, free of income tax, £10,735 18s.; bonus of 6d. per share on Ordinary shares, free of income tax, £2,683 19s. 6d.; to reserve, £10,000; balance to be carried forward, £27,922 5s. 4d.; making a total of £54,092 2s. 10d. During 1923 and 1924 a new weaving shed and other additional buildings have been erected at Saltley, in order to increase the production of surgical dressings. The sum expended amounted to £15,508, and has been taken out of the internal reserve fund. Mr. T. Barclay and Mr. E. D. Barclay, who retire from the Board, offer themselves for re-election.

Westminster Wisdom

By the "C. & D." Parliamentary Representative

EASTER HOLIDAYS

The House of Commons will adjourn on April 9 for the Easter Holidays and reassemble on April 28.

THERAPEUTIC SUBSTANCES BILL

This Bill, read a third time and passed in the House of Lords on March 19, was sent to the House of Commons the same day.

BRITISH CHEMICALS

Mr. Crawfurd asked the President of the Board of Trade on March 24 if he can give the name of the firm stated by him (*C. & D.*, March 21, p. 418) to be manufacturing over 1,000 of the chemicals scheduled under Part I of the Safeguarding of Industries Act 1921?

Sir P. Cunliffe-Lister: The name of the firm to which reference was made is The British Drug Houses.

UNSWEEETENED TABLE WATERS DUTY

Mr. Grotian asked the Chancellor of the Exchequer, on March 19, the amount of revenue produced during the last twelve months by the duty on unsweetened table waters and the approximate cost of collection?

Mr. Churchill: The approximate net amount of revenue collected on unsweetened table waters for the twelve months ended on February 28, 1925, was £408,000. The collection of this revenue is performed by officers of Customs and Excise in conjunction with other work. The precise cost of collection cannot, therefore, be ascertained, but, so far as an estimate can be made, the cost is about 1 per cent. of the amount collected.

CHEMICAL WARFARE

Mr. Ammon asked the Secretary of State for War on March 20 the nature of the research and experiments relating to defence against chemical warfare undertaken at the Porton Chemical Warfare Research Department; whether research and experiments are entirely concerned with defence against poison gases; and whether other forms of chemical warfare are being investigated?

Sir L. Worthington-Evans: Research and experiment relating to defence against gas are directed towards the methods and appliances for individual and collective protection, and also towards the treatment of gas casualties. Research and experiment are primarily concerned with defence against gas, but it is essential, for the purpose of protection against gas, to investigate the possibilities of new gases and other forms of chemical warfare which might be illicitly employed against this country.

FOOD REGULATIONS

Mr. MacKenzie Livingstone, on March 25, asked the Minister of Health if he is aware that in the draft rules dealing with preservatives in foods there is a list of prohibited coal-tar products which gives the impression that all other such products may be used; and will he take steps to lay down the quantities of lead and arsenic permitted in such compounds, and thus carry out the recommendations of the Committee?

Sir Kingsley Wood replied that the effect of the regulations, as drafted, is that all coal-tar colours which are not included in the schedule may be used in food until they are shown to be injurious to health. Although lead and arsenic are occasionally present in coal-tar products, the percentage of these substances liable to be introduced into foodstuffs through this medium is so minute that it is unnecessary to extend the scope of the regulations in the direction suggested.

FOOT-AND-MOUTH DISEASE

Sir James Remnant asked the Minister of Agriculture on March 23 where it is proposed to build the isolated experimental station at which the official test of Dr. John Shaw's remedy for and prevention of foot-and-mouth disease is to be made; if the building has been started; from whom the doses with which the test is to be made are being obtained; and whether he has decided that

Dr. John Shaw shall be present and carry out the test when it is made?

Mr. Wood, who replied, said it is not proposed to build a new experimental station for the purpose of testing Dr. Shaw's remedy. The premises at Pirbright formerly used by the Ministry as a cattle-testing station, which are being adapted for use by the Scientific Committee on Foot-and-Mouth Disease, will be utilised for the purpose. No doses of the remedy have yet been obtained, but it is presumed that Dr. Shaw will be prepared to supply them when required. It is not legally possible for Dr. Shaw personally to carry out the tests without a licence granted by the Home Secretary under the Cruelty to Animals Act, 1876, which he is advised he does not hold; but he proposed to invite him to concur in the suggested scheme of experiments, and to be present during their conduct by the responsible officers of the Ministry's veterinary staff.

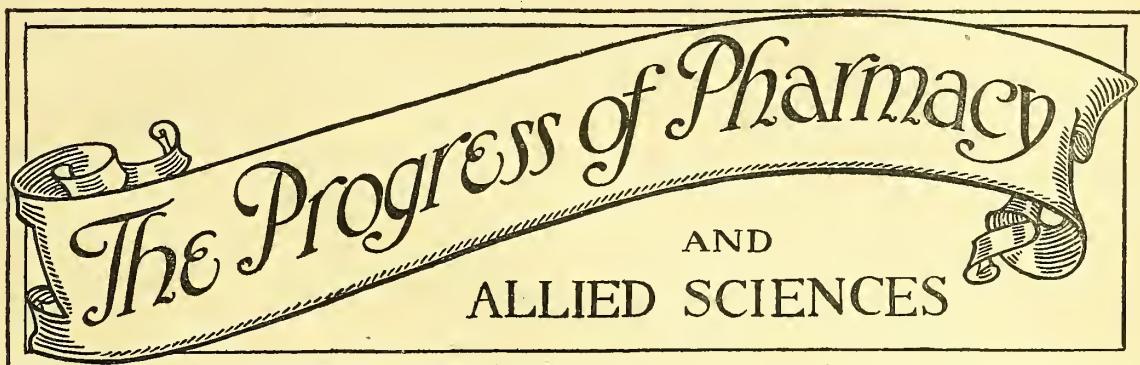
Associations' Winter Session

Public Pharmacists.—At the evening meeting of the Guild of Public Pharmacists, on March 18, at Bloomsbury Square, London, W.C., the President (Mr. F. A. Hocking) in the chair, three discourses were delivered by members. The first was by Mr. A. J. Smith, Ph.C., entitled *Notes on Some B.P. Chemicals*, the speaker from personal experience vouching for the high quality of the chemicals supplied. Mr. E. W. Algar, who spoke on *Optics for Pharmacists*, advised the taking up of the study of one or more subjects allied to the practice of the dispenser, and of preferably testing the knowledge acquired by taking a standard qualifying examination therein. An account of the range covered by a complete syllabus for qualification by one of the examining bodies was given, and it was pointed out that, should the public pharmacist at any time go into retail business, he would take with him a valuable asset. Mr. Fouracre, on *Questions a Pharmacist is Asked*, brought forward some very original queries, to some of which he suggested answers. A discussion, lasting about an hour, followed, and the meeting closed with a vote of thanks to the speakers.—At a meeting of the Council, held the same evening, satisfactory reports were received from the treasurer, the registrar and the secretary. The interview with representatives of the Council of the Pharmaceutical Society was reported by the treasurer (Mr. J. Langford Moore). After its consideration a small committee was appointed to consider and amend a draft of suitable indentures for apprenticeship in public institutions. It was also resolved that the social announced for Easter week should be postponed.

Sheffield.—At a meeting of the Sheffield Pharmaceutical and Chemical Society, held recently, Mr. H. B. Hammond (President) in the chair, Mr. L. Moreton Parry (Liverpool), member of the Council, gave an address on the proposed new regulations. The President afterwards distributed the prizes for the students' competition, as follows:—(January) 1, Mr. J. C. Hughes; 2, Mr. A. H. Cummings; (March) 1, Mr. Hughes; 2, Mr. Cooke.

West Ham.—The annual meeting of the West Ham Association of Pharmacists was held at Y.M.C.A., Forest Gate, on March 19, 1925, the President (Mr. C. A. Jones) in the chair. There was a good attendance of members. The general secretary and treasurer presented his reports. There was a credit balance of £60 17s. 1d., with a further sum of £3 outstanding. Miss Kirkpatrick moved the adoption of the balance sheet and congratulated the treasurer on the way his accounts were kept. The election of officers resulted as follows:—President, Mr. Gwinn; Vice-President, Mr. Ben Wathen; Hon. General and Social Secretary and Treasurer, Mr. I. Reed; Committee, Messrs. Evans, C. A. Jones, Maxey, Soper, Thomson, Kirkpatrick and Cato; Auditors: Miss Kirkpatrick and Mr. Potter. Votes of thanks were accorded to the retiring officers.

THE Staffordshire County Council has decided to provide a new bacteriological and chemical laboratory at Stafford at a cost of £3,400.



The Progress of Pharmacy AND ALLIED SCIENCES

PHARMACY

Olive Oil for Injection.—As a result of an exhaustive investigation into the various methods hitherto proposed for neutralising the acids present in olive oil used for subcutaneous injections, R. Giordano ("Revista Farmacéutica" (Buenos Aires), Nos. 10 and 11, 1924) recommends the following procedure for the preparation of a neutral olive oil: 5 grams of calcined magnesia and 100 grams of olive oil are introduced into a flask with a capacity of 250 c.c., and the mixture is frequently agitated in the course of six hours. After filtration the oil is sterilised for 20 minutes at 120°.

Ipecacuanha Infusion.—P. Runge ("Pharmazeutische Zeitung," Dec. 24/27, 1924) investigated a number of commercial concentrated infusions of ipecacuanha, in which he found that the emetine content varied between 0.356 and 0.764 per cent., although the preparations claimed to be 1 in 1. As a result of his own experiments, Runge found that the yield is increased by the addition of hydrochloric acid, and he recommends the following procedure: 10 grams of ipecacuanha root, 1 gram of dilute hydrochloric acid and 100 grams of water is heated in a current of steam for 30 minutes, with constant agitation. Strain, add 80 grams of water to the residue, and infuse again for 30 minutes. Strain, mix the liquids, add water to produce 180 grams and 20 grams of alcohol. The resulting concentrated infusion (1:20) contains practically the whole of the emetine present in the root.

Stabilisation of Aconite Preparations.—E. E. Swanson ("Journal of the American Pharmaceutical Association," XIII, No. 12, p. 1108) reports that the deterioration of tinctures of aconite can be prevented by the addition of acid to the menstruum or to the finished percolate. Tinctures with PH number of 5 made with acid-alcohol menstruum showed no loss in activity. Partial deterioration occurring at PH 4.3 to 4.65 with acetic acid, and at PH 2.3 with hydrochloric acid, added to the finished percolate. U.S.P. tinctures made with 70 per cent. alcohol undergo rapid deterioration. The relative toxicity of aconitine and its decomposition were tested in acid-alcohol solution (containing 70 per cent. alcohol and 2 per cent. acetic acid). Aconitine gave minimum lethal dose of 0.00000060 gram per gram body weight of guinea pig. Aconitine proved to be ten times as toxic as diacetyl aconitine, 500 times as powerful as benzoyl aconine, and 5,000 times as toxic as aconine.

Endocrine Gland Products.—P. S. Pittenger details in the "Journal of the American Pharmaceutical Association" for February (p. 99) the principles to be observed in the manufacture of glandular products. Glands must be frozen solid immediately on removal from the animal and kept in cold storage until used at 5° to 15° below zero Fahrenheit. Glands should be used as quickly as possible, most of the drying taking place in air dryers without heat, the final traces of moisture being removed in temperature-controlled warm air dryers or in low-temperature high vacuum dryers. The question of whether fat should be removed or not is still in dispute, owing to the value of lipoids, but mechanical methods rather than solvents should be used for fat removal. The

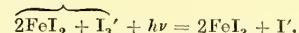
following figures are the number of animals required to produce 100 lb. of desiccated gland powder: Pituitary (posterior lobe), 960,000 cattle; pituitary (whole gland), 120,000 cattle; corpus luteum, 135,000 cattle.

Mercury Ointment.—Basing himself on the property of a concentrated solution of hydrogen peroxide (perhydrol) of rapidly effecting a fine sub-division of mercury, E. Belcot ("Revista Farmacéutica," December 1924) proposes the following procedure for the preparation of mercury ointment: 22.5 grams of lanoline and 7.5 grams of almond oil are melted; when cool three drops of perhydrol are added, and the whole is well mixed; 120 grams of mercury is incorporated into this base by rubbing until metallic globules are no longer apparent even on examination with a magnifying glass, whereupon a mixture of 160 grams of lard and 90 grams of suet is added, previously melted together and allowed to cool. Belcot states that 20 grams of a mixture of seven parts of lanoline, three parts of almond oil and four drops of perhydrol is capable of effecting the complete subdivision of 180 grams of mercury, while the use of five drops of perhydrol to 10 grams of this excipient will effectively extinguish as much as 250 grams of mercury.

PHARMACEUTICAL CHEMISTRY

Lithium Succinate.—This compound, a white crystalline powder, soluble in 3 parts of cold water, is obtained by the neutralisation of succinic acid with lithium carbonate. "L'Union Pharmaceutique" (February, 1925) states that it is indicated in the treatment of gout, renal lithiasis and gravel, and as a diuretic, in doses of 0.05 to 0.1 gram, or in subcutaneous injections of 0.02 gram in 1 c.c. of solution.

Ferrous Iodide and Photochemical Equilibrium.—E. K. Rideal and E. G. Williams ("Journal of the Chemical Society," 127, p. 258) find that the interaction between ferric salts and iodides to produce ferrous ions and free iodine is not only reversible, but rigidly obeys Einstein's law of photo-equivalence. The mechanism of the reaction can be expressed:



Effect of Hydrogen Ion Concentration on Diastatic Activity.—H. C. Gore ("Journal of the American Chemical Society," 47, No. 1, p. 281) finds that diastase in a malt infusion is sensitive to the effect of varying hydrogen ion concentration, the optimum activity being from PH 4.5 to PH 5.5. The determinations were made by the new polarimetric Lintner method, for which it is stated that the hydrogen ion concentration of the mixture of soluble starch and diastase infusion must be kept within the above range.

Ascaridol.—W. G. Smillie and S. P. Pessoa ("Journal of Pharmacology and Experimental Therapeutics," 1924, 24, p. 359) not only confirm that ascaridol is the active principle of *chenopodium* oil, but have shown that none of the other constituents possess anthelmintic properties. Ascaridol boils at 110° at 15 mm. pressure; the lighter fractions of *chenopodium* oil consist of terpenes and methyl salicylate. Glycol anhydride and ascaridol

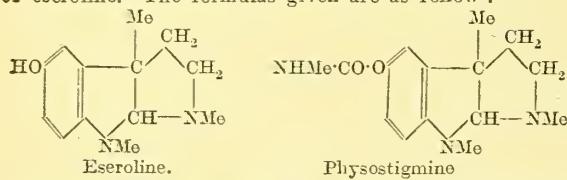
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glycol are also present, especially in inferior oils with reduced anthelmintic properties.

Hamamelitannin.—K. Freudeberg and F. Blümmel ("Annalen," 440, p. 45) have succeeded in obtaining this tannin in a crystalline condition. The composition $C_{26}H_{20}O_{14} \cdot 6H_2O$ of the purified product is that previously deduced by these investigators. It loses its water of crystallisation at 100° under reduced pressure of 12 mm. The reactions and decomposition products agree with its being a digalloyl hexose. This hamamelin-hexose has a branched chain, the structure suggested for this sugar being $CH_2(OH)CH(OH)C(OH)CHOHCH_2OH$.

Santonin Test.—J. Mindes ("Pharmazeutische Monatshefte," February 1925) describes the following test for santonin: To 0.02 gram of santonin in a test tube add 1 c.c. of solution of sodium hydroxide (10 per cent.), complete with water to 10 c.c. After the addition of 3 drops of concentrated sulphuric acid the mixture is heated for 1 or 2 minutes until solution is effected, whereupon solution of potassium permanganate (1 : 100) is added to the mixture while hot. The solution assumes a bluish-green colour, changing to a dirty green and then becomes brown, depositing after a few minutes a chocolate-brown precipitate, the supernatant liquid being colourless. In the absence of santonin no reaction takes place.

Physostigmine.—E. Stedman and G. Barger ("Journal of the Chemical Society," January, p. 246) adduce evidence that leaves no doubt as to the constitution of eserethole, the ethyl ether of eseroline, and hence of physostigmine, which is the methylcarbamide derivative of eseroline. The formulas given are as follow:—



Iodine as an Emulsifying Agent.—H. N. Holmes and H. A. Williams ("Journal of the American Chemical Society," 47, No. 2, p. 323) have prepared emulsions of the oil-in-water type of ether, ethyl acetate, amyl acetate and amyl alcohol, using iodine as the emulsifying agent. Adsorption films of iodine exist at the liquid-liquid interfaces. Pairs of liquids showing considerable but not complete miscibility (i.e., with lower interfacial tension), emulsified more easily than less miscible liquids. The following is the method of making an ether-in-water emulsion, which is a good example of the above types: To 10 c.c. of water (saturated with ether) add slowly 30 c.c. of a 1 per cent. solution of iodine in ether (saturated with water) with intermittent shaking. With care an almost jelly-like emulsion results.

Iron Greening Factor in Digitalis.—J. C. and Bertha L. de G. Peacock ("American Journal of Pharmacy," 95, 12, p. 875) find that digitalis contains a principle which in aqueous solution gives a green colour with ferric chloride, but gives contradictory results as regards being a tannin. Thus it precipitates gelatin and is absorbed by hide powder, but dialyses through an animal membrane. It is obtained from the alcoholic extractive dissolved in water by precipitation with several volumes of 95 per cent. alcohol. Solutions of the iron greening factor, which is sparingly soluble in cold water, but more readily in hot water, display an amber colour, are acid to litmus, and possess a bitter taste. A crystalline acid substance was isolated, but this was not bitter and did not change the colour of ferric chloride.

Two New Antimony Compounds.—A. Randall ("American Journal of Medical Sciences," November 1924) describes two compounds of antimony for intravenous administration: (1) Sodium antimony thioglycolate, and (2) triamide of antimony thioglycolic acid.

Studies on animals show them to be of slightly lower toxicity than tartar emetic, while clinically they have failed to show any evidence of antimony poisoning so often observed in using tartar emetic. No toxic effects were exhibited when giving a maximum dose of 0.1 gram, while five patients intolerant to tartar emetic have taken these drugs without reactions. Neither of these two drugs produced any irritative effect at the site of injections. In ten cases of granuloma inguinale prompt and complete healing, with evident cure, was accomplished in nine. Immediate relief of pain following the initial injection has been a remarkable manifestation in three cases.

Biological Assay of Veratrum Viride.—L. W. Rowe ("Journal of the American Pharmaceutical Association," XIV, No. 1, p. 24) finds that white mice offer a more practical method of physiological assay of Veratrum preparations. Not only do mice require a shorter period of preparation than frogs, but a smaller number of animals (average about three-fourths) is required, so that the mouse method is less expensive. The minimum lethal dose of standard fluid extract of Veratrum viride should be 0.00025 c.c. per gram body weight of white mouse on peritoneal administration. For veratrone (an aqueous solution of Veratrum adjusted to one-fourth of the strength of the fluid extract) the minimum lethal dose should be 0.0010 c.c. per gram body weight of white mouse. Indefiniteness of the end point is the serious disadvantage of Houghton's frog method of assay, as these may be inst alive eighteen or twenty-four hours after injection. Mice are rapidly affected, and final results are obtained within thirty minutes, as they rarely die after that period.

Silver Ion Concentration.—R. B. Smith and P. M. Giesy ("Journal of the American Pharmaceutical Association," XIV, No. 1, p. 10) have determined by potentiometric methods the silver ion concentration curves of colloid silver germicides when titrated with potassium iodide and hydroiodic acid (and also with corresponding chlorides for comparison). The results are expressed in the negative logarithm of the silver ion concentration PAG., corresponding in meaning to the pH of hydrogen ion concentration. The results show that solargentum (PAG. 6.7 to 7.1) contains 11 to 14 per cent. of its silver more highly ionized than silver iodide in the presence of excess soluble iodide. Collargol (initial PAG. 6.5) is 10 per cent. more highly ionized than silver iodide. The remainder of the silver in these compounds is probably metallic silver, and the ionizable silver may be combined with protein in insoluble or slightly ionized form. Protargentum (PAG. 2.1 to 2.4), with 81 per cent. of silver more ionizable than silver iodide, is probably a mixture of colloidal silver oxide with silver protein compounds.

Synthetic Menthol.—L. Rosenthaler ("Pharmazeutische Zentralhalle," March 12, 1925) investigated four commercial specimens of synthetic menthol, all of which were optically inactive. Two were liquids (melting point about 16°); one a crystalline mass, which produced a grease stain on paper, had a melting point of 29° - 30° , and another, also a crystalline mass with the same melting point, and had evidently been filled in a molten condition. The author draws attention to the fact that these products were all optically inactive, although other synthetically prepared menthols usually possess a specific rotatory index which, however, differs from that of natural menthol. He raises the question of considering the advisability of including synthetic menthol in the pharmacopoeia as soon as its pharmacological action is definitely established, and it is possible to manufacture a satisfactory product, particularly from the point of view of supporting home industry. Rosenthaler states that the menthol obtained by the reduction of thymol consists of racemates, and is consequently optically inactive, whereas optically active products result from the reduction of menthon, pulegon or piperiton.

Identification of Source of Vanilla Extractive.—C. B. Guadiner ("Industrial and Engineering Chemistry,"

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March 1925, p. 303) gives a test by which the presence of 5 to 10 per cent. of the less desirable Tahiti extract or extract of vanilloes can be detected when added to the more costly alcoholic extractive from Bourbon or Mexican vanilloes. The test depends upon anisyl alcohol being the chief constituent of the volatile oil in Tahiti beans, and is conducted as follows:—Vanilla extract 50 c.c. is allowed to evaporate spontaneously in an evaporating dish before a fire to about 15 c.c. Transfer to a separator with water, diluting to 50 c.c. Extract once with 50 c.c. of ether, wash ethereal extract three times with 15 c.c. portions of 2 per cent. sodium hydroxide solution and once with 15 c.c. of water. Evaporate ether extract in a current of air, and when the ether is driven off, dissolve the residue in 0.5 c.c. of alcohol. Add two or three drops of this alcoholic solution to a test tube containing 2 to 3 c.c. of concentrated sulphuric acid. On mixing, Tahiti extract immediately develops a deep, permanent red colour. Bourbon, Mexican, South American, and Java vanilla extracts all give negative results with this test for anisyl alcohol.

Alkaloidal Hydroferrocyanides and Hydroferricyanides.—W. M. Cumming and D. K. Brown ("Journal of the Society of Chemical Industry," March 6, p. 114T.) give the compositions of the combinations of several alkaloids (and also of phenazone and of pyramidon) with hydro-ferrocyanic and hydroferricyanic acids. Microphotographs of nine salts are reproduced. The table summarises the constitutions of the various salts, the base being designated B and acid as A. The figures below each salt is the percentage of iron present therein:—

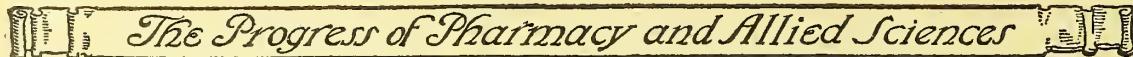
Base	Hydroferrocyanides			Hydroferricyanides	
	Neutral	Acid	Alco-holic	Acid	Alco-holic
Brucine ..	BA (9.18)	BA, 2Aq. (8.67)	BA, 2 EtOH (7.98)	B ₃ A, 6Aq. (3.72)	B ₂ A (5.53)
Cinchonine ..	BA, Aq. (10.60)	BA, 2Aq. (10.26)	BA, 1 ₂ EtOH (9.67)	BA, 2Aq. (10.28)	BA, EtOH (10.09)
Cocaine ..	B ₃ A, 3Aq. (6.39)	B ₂ A, 2 Aq. (6.53)	B ₂ A, EtOH (6.45)	B ₂ A (6.82)	B ₂ A, EtOH (6.46)
Narcotine ..	B ₂ A, 2Aq. (5.19)	B ₂ A, 2Aq. (5.19)	B ₂ A (5.37)	—	—
Quinine ..	B ₃ A, 2Aq. (7.78)	BA, 2Aq. (9.72)	B ₃ A ₂ (7.98)	BA, 3Aq. (9.43)	BA, 2 EtOH (8.86)
Strychnine ..	BA (10.18)	BA, 2Aq. (9.56)	BA, 2 EtOH (8.72)	B ₃ A, 6Aq. (4.23)	B ₂ A (6.34)
Phenazone ..	B ₂ A (9.46)	B ₂ A and hydrates (9.46)	BA, 2 EtOH (11.29)	B ₂ A, 4Aq. (8.45)	B ₂ A, EtOH (8.79)
Pyramidon ..	—	BA, 2Aq. (11.60)	B ₂ A EtOH BA ? (? 74 and 10.39)	—	B ₂ A EtOH (7.75)

Organic Bismuth Compounds.—E. Maschmann ("Archiv der Pharmazie," February, 1925) suggests a number of organic compounds of bismuth for therapeutic use, in which the spirillocidal action of the metal is possibly fully displayed. *Sodium-tribismuthyl-tartaric acid*, $C_6H_2O_6$ (BiO)₃Na, $2H_2O$: A solution of 96 grams of bismuth nitrate in 30 c.c. of nitric acid (sp. gr. 1.4) and 45 c.c. of water is added to a solution of 30 grams of tartaric acid in 40 c.c. of $N/10$ sodium hydroxide and 60 c.c. of water. The mixture is cooled and sufficient $N/10$ sodium hydroxide is added to dissolve the precipitate on its formation, whereupon it is set aside to crystallise. After 5 to 8 days the precipitate is collected and washed with iced water. The resulting compound contains 71.25 per cent. of bismuth, and yields with water a neutral solution which is stable on boiling. *Mannose-bismuth-nitrate*. 16 grams of bismuth nitrate is added to a solution of 18 grams of mannose in 30 c.c. of water. The solution is added to

10 times its volume of absolute alcohol, and the flocculent white precipitate washed with a little alcohol. Fructose or mannite may be used in the place of mannose to produce similar compounds. *Erythrite-bismuth-nitrate*. 16 grams of bismuth nitrate is added to 12 grams of erythrite in 25 c.c. of water, and after one hour the mixture is poured into 300 c.c. of alcohol. The crystalline precipitate, after drying, is readily soluble in water without decomposition, even on boiling, and contains 53.45 per cent. of bismuth.

Sterilising Dressings.—Professor Kenneth Black ("British Medical Journal," I, 1925, p. 210) states that for many years he has endeavoured to solve the problem of ascertaining easily and economically the temperature inside a tin of dressings undergoing sterilisation. He had made tests of sterilisers and had found that sterilisers of low pressures were practically useless, while even those of high pressure were mostly inefficient unless sterilisation was continued for a far longer period and at a higher pressure than the maker's printed instructions suggested. His method was decided on after a series of experiments with fusible metals; eventually a pyrometer, which is described below, was devised. It is placed in the inside of a tin, drum, or packet of dressings, etc., and remains there during the process of "sterilisation." It consists of a round piece of cardboard, to which are attached six small squares of fusible metal, each having a different fusing point. Convenient fusing points have been found to be 190°, 200°, 212°, 220°, 230°, and 240° F. Each square is marked with its own fusing point, and the cardboard is similarly marked in the proper places. When the temperature of 190° F. is reached the first square fuses; when that of 200° F. is reached the second square fuses, and so on. Consequently, by glancing at the pyrometer when the dressings are unpacked after "sterilisation," the surgeon can see how many squares have fused, and consequently what minimum temperature has been reached in the inside of the packet or tin. When a square fuses its surface becomes rough and its outline blurred, whereas an unfused square remains bright and its edges sharp. As the pyrometer can only be used once, cheapness is essential. A pyrometer consisting of only one thin square of fusible metal melting at exactly 212° F. would suffice, and its cost would be insignificant. Johnson & Matthey, Hatton Garden, London, E.C., make these metals to melt at any temperature desired. They all contain bismuth, and this renders the metal somewhat brittle to roll into sheets, but it can be cast fairly easily into thin plates or melted into tiny square castings. The accuracy of the actual melting points is easily checked.

Assay of Nux Vomica.—Th. Sabalitschka and C. Jungermann ("Pharmazeutische Zentralhalle," March 5, 1925) describe the following method of determining the alkaloidal content of nux vomica: 5 grams of powdered nux vomica is placed on a filter and repeatedly treated with 50 c.c. of petroleum ether to remove the major portion of the oil contained in the seeds. The petroleum ether retained by the powder is allowed to evaporate, whereupon the latter is transferred to a well-glazed porcelain capsule and thoroughly mixed with 5 to 10 c.c. of sodium hydroxide solution (15 per cent.). Thereupon sufficient calcium sulphate is added in small portions with constant trituration to produce a pulverulent, dry mass; for this usually 10 to 20 grams is required. The powder is now transferred to a wide-mouthed tall flask with a glass stopper, and 50 c.c. of ether and 50 c.c. of chloroform are quickly added. The flask is shaken for two minutes, and again five or six times in the course of an hour. After standing, the clear supernatant chloroform-ether solution is filtered off, care being taken to prevent evaporation during the process; 50 c.c. of the filtrate is measured into a separator, and an excess of $N/100$ sulphuric acid (about 30 c.c.) is added, as well as sufficient ether to cause the formation of two layers: below the water and above it the chloro-


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form-ether solution. The mixture is then shaken for two minutes, and after the two layers have separated the lower one is drawn off. The chloroform-ether layer is shaken with three successive portions of 20 c.c. of water, and these portions are added to the first acid extract. After adding three drops of methyl red solution (0.1 in 100 alcohol) titration is carried out until the first change in colour from red to yellow is apparent. The difference between the amount of acid and of caustic, multiplied by 0.00364, gives the alkaloidal content in grams. Example: 5 grams of *nux vomica*, 100 c.c. of chloroform-ether, of which 50 c.c. were measured off and shaken with 20 c.c. *N/100* sulphuric acid; 3.8 c.c. of *N/100* caustic required for titration. The difference of 16.2 c.c. of *N/100* sulphuric acid = 50 c.c. chloroform-ether = 2.5 grams of *nux vomica*, consequently $16.2 \cdot 0.00364 \cdot 40 = 2.26$, the latter figure representing the percentage content of total alkaloids in the sample analysed. The authors state that in adopting their method of assay it is imperative to remove the fat from the seeds, as the presence of the latter erroneously yields a higher alkaloidal content than is actually present.

BOTANY

Nitrogen Fixation.—C. P. Lipman and J. K. Taylor ("Journal of the Franklin Institute," 1928, No. 4, p. 475) bring forward considerable evidence that wheat and barley in culture solution, with or without nitrogen in nitrate form, can obtain nitrogen from the atmosphere. *Bromus villosus* and a species of *Pinus* also fixed nitrogen, but the pea (*Pisum sativum*) was unable to do so. These investigators reject the question of fixation being due to the action of symbionts such as bacteria, and consider that nitrogen assimilation occurred directly, probably in the cells of the green leaves.

Effect of Drying on Carbohydrate Content of Plant Tissues.—Karl P. Link ("Journal of the American Chemical Society," February 1925, p. 470) finds that drying at a temperature below 65° is not sufficient to stop enzyme action and respiration in green succulent tissue. Tissues which dry rapidly, such as beet and corn leaves, dry without loss of sugar at 65° to 80°, but drying for twenty-four hours at 98° reduces sugar content, owing to caramelisation and leaching. The Spoehr method of heating in a closed vessel to 98° also causes some loss by caramelisation, and it is suggested that subsequent drying should be in a well-ventilated oven at a reduced temperature. The results show that there is no universal method for drying plant tissues which can be relied upon to give accurate results, each tissue presenting a specific problem and requiring experimentation to determine the drying temperature. In those tissues where enzyme action makes drying by heat inapplicable preservation with alcohol is the only alternative.

Constituents of Plant Sap.—A. Wormall ("Biochemical Journal," XVIII, No. 6, p. 1186) has investigated the constituents of the sap of bleeding vines (*Vitis vinifera*) in order to ascertain the proportion of organic as well as inorganic substance in the exudate. Of the total solids, amounting to 1.5 grams per litre, about one-third is inorganic and the remainder organic. The organic constituents are chiefly sugar (glucose, fructose, with very little cane sugar), and organic acids (oxalic, tartaric, malic, and succinic), the latter exceeding the sugars in amount. Mineral salts present are chlorides, sulphates, nitrites, nitrates, silicates, and phosphates of sodium, potassium, calcium, iron, magnesium, and, to a lesser extent, manganese and aluminium. The iron present is readily diffusible. The whole of the nitrogen appears to be in the form of nitrates and nitrites; the very small amount of organic nitrogen could possibly be attributed to the enzymes present (diastase, peroxidase, and a little catalase). Maltase, lipase, proteases, rennin, lipin, and glycerophosphates were absent.

AGRICULTURAL CHEMISTRY

Potato Blight and Water Content of Leaf.—E. J. Collins, in a communication to the Linnean Society on Dec. 18, 1924, states that the foliage of the early varieties of potato which are most susceptible to potato blight (*Phytophthora infestans*) have the highest water content, but the degree of susceptibility is indicated more precisely by the water-nitrogen ratio, which is highest at the time of infection. Sprayed foliage shows a lower water content and a higher nitrogen content than unsprayed leaves, and the value of spraying, apart from the fungicidal action of copper, lies in the delay of the metabolic changes accompanying old age.

The Insecticidal Properties of Sodium Fluosilicate are due to its being both a contact and a stomachic poison, it being more effective against adult insects which have the habit of licking their limbs to clean them than against their larvae. S. Marcovitch ("Industrial and Engineering Chemistry," Vol. 16, No. 12, p. 1,249) states that in field trials with sodium fluosilicate (one part by volume with nine parts of hydrated lime), used as a dust, the best results are obtained when the beetles appear and before egg-laying is advanced. Insects against which this dust was successfully used include Mexican bean beetle, Colorado potato beetle, potato flea beetle, bean leaf beetle, and tobacco horn worm. Used pure and under cages, it killed cotton boll weevil in five to twenty-four hours. The advantages of sodium fluosilicate over arsenicals are:—(1) Cheapness, (2) contact as well as stomachic poison, (3) more rapid killing, (4) non-poisonous to humans, (5) effectiveness against a wide range of insects. The great disadvantage is its density, which problem has been solved for calcium arsenate.

The Rôle of Silica in Plant Growth.—D. R. Nanji and W. S. Shaw ("Journal of the Society of Chemical Industry," XLIV, No. 1, p. 1T.) throw new light on the rôle which silica plays in plant physiology, and especially its connection with phosphate assimilation. Silica is undoubtedly used in the building up of cell membranes, the edges of leaves, as also hairs, being particularly rich in silica. Calcium and silica have long been regarded as mutually replaceable supporting substances, leaves of *Crassulaceæ* being rich in calcium, and grasses in silica. Siliceous deposits begin in the leaf and progress downwards to the lateral shoots, and finally to the stem. The main portion of the silica lies in the lower and upper portion of the straw and in transverse section the silica content increases from within outwards. The indirect evidence available points to silicic acid sharing with phosphoric acid the property of forming ester-like combinations with polysaccharide constituents, which complexes are generally found combined with calcium and magnesium, and to a less extent iron. The experimental results from Broadbalk wheat grown under different conditions are exceedingly instructive, that from plot with farmyard manure considerably exceeding the other straws both as regards total silica and organic silica. The wheat straw grown in water culture was devoid of silica, but had a remarkable increase in total phosphate, which was four or five times the normal. In Incham straws with higher silica content, phosphates are relatively less. Thus an abundant supply of silica is capable of replacing phosphoric acid without any detrimental effect. It would appear that assimilation of silica may even suppress the intake of phosphoric acid. The highest silica content was 14 per cent. in rice straw, which would appear to enable the plant to withstand an environment detrimental to an ordinary crop. It is suggested that there is reason to believe that the influence of silica on resistance to disease may be of great economic significance in cotton and other crops.

ANALYTICAL CHEMISTRY

Potassium Metabisulphite as Reagent.—In the place of sodium bisulphite in testing cinnamic aldehyde, H. Rothlin ("Farmacevtisk Revy," January 24, 1925) suggests the use of potassium metabisulphite, $K_2S_2O_5$,

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which, in contradistinction to other acid sulphites, does not appreciably oxidise on keeping, and is therefore more stable than sodium bisulphite. For use a solution of 3 grams in 10 grams of water is prepared, which yields a solution with cinnamic aldehyde within a short time on heating.

Glycerin Test.—I. M. Kolthoff ("Pharmaceutisch Weekblad," December 20, 1924) describes the following test for the recognition of glycerin: 1.5 to 2 c.c. of 4/N phosphoric acid and 2 c.c. of a 3 per cent. potassium permanganate solution are added to 5 c.c. of the solution to be tested; set the mixture aside for 10 minutes, then add 1 c.c. of a 10 per cent. solution of oxalic acid, shake and allow to stand until it assumes a light brown colour (1 to 2 minutes), and add 1 c.c. of dilute sulphuric acid and 5 c.c. of Schiff's reagent. This test yields a positive reaction in the presence of 0.04 per cent. of glycerin.

Determination of Fat in Condensed Milk.—R. W. Sutton ("Analyst," January, 1925) gives the following method for determining the fat content of condensed milk: From 2 to 3 grams of the condensed milk completely emulsified with about 20 c.c. of water, 5 c.c. of Fehling's copper sulphate solution is added, and the contents are warmed to complete the precipitation of the proteins. The contents are then filtered through a wet ribbed paper, and the flask is well washed, the washings being passed through the filter paper. The paper and precipitate are transferred to the flask, 10 c.c. of hydrochloric acid is added, the paper is broken up with a rod, and the flask is warmed until the fat appears as clear globules on the surface. The fat is then obtained by three extractions with petroleum spirit, the extract being washed to remove traces of acid, the spirit evaporated, and after drying the residue is weighed.

Determination of Milk Sugar in Milk.—H. D. Rich mond and L. R. Ellison ("Analyst," January, 1925) describe the following method for the determination of milk sugar in milk: 10 c.c. of milk or of a solution of 1 part of condensed milk in 2 parts of water by weight, are weighed or measured into a 100 c.c. flask and diluted with 50 c.c. of water, 10 c.c. of Mayer's reagent and 2 c.c. of N/1 sulphuric acid are added. The mixture is well shaken, made up to 100 c.c., and filtered. 25 c.c. of the filtrate are made neutral to phenolphthalein (1 drop), 20 c.c. of N/10 iodine solution and 30 c.c. of N/10 sulphuric acid added, and the excess of iodine solution is titrated with N/10 thiosulphate solution. The percentage of anhydrous milk sugar by weight is calculated thus:—

$$\text{Per cent.} = \text{c.c. iodine used} \times 0.0682 \times \frac{100 - (0.3 + \text{fat} \times 1.11)}{\text{Weight of milk}}$$

BIOLOGICAL CHEMISTRY

Toxicity of Distilled Water.—G. W. Scarth ("Transactions of the Royal Society of Canada," 18, V, p. 97) finds that distilled water exposed to air becomes decidedly toxic to Spirogyra, owing to hydrogen ions from carbonic acid formed in consequence of absorption of atmospheric carbon dioxide. Addition of salts antagonises this action, but increasing concentration leads to toxicity again from metallic ions.

Source of Vitamin B in Yeast.—H. W. Southgate ("Biochemical Journal," XVIII, No. 6, p. 1249) finds that the yeast cell growing in beer wort abstracts the water soluble vitamin B from the solution. The yeast organism does not synthesise the vitamin; the results suggest that some vitamin may be used up in its growth. The main loss of vitamin B in beer is thus accounted for by its extraction with yeast during fermentation of the wort.

Acidosis and Alkalosis in human beings is accompanied by increase or diminution respectively of the amount of inorganic phosphate in the blood with corresponding increase or reduction of alveolar carbon dioxide. M. Martland ("Biochemical Journal," xix, No. 1, p. 117) finds

that the enzyme phosphoric esterase in blood, hydrolyses phosphoric ester below a hydrogen ion concentration of PH 7.3, and synthesis occurs above PH 7.35, which phenomena it is suggested explain the changes in phosphatic content of blood associated with acidosis and alkalosis.

Bactericidal Activity of blood of rats to *Staphylococcus aureus* shows distinct reduction following diet deficient in vitamins or phosphorus (G. M. Findlay and I. Maclean, "Journal of Biological Chemistry," xix, No. 1, p. 63). As regards vitamin A, the reduction in bactericidal power of the blood occurs only after the onset of keratomalacia or bronchopneumonia. With vitamin B the deficiency fall in body temperature would appear to be associated with reduction in bactericidal activity. Ricket-producing diets (deficient in phosphorus and antirachitic factor) showed greatly reduced resistance to bacterial infection in four rats, while two others retained normal bactericidal activity.

Nucleotides from Yeast Nucleic Acid.—W. Jones and M. E. Perkins ("Journal of Biological Chemistry," January 1925, p. 557), in an investigation find that when yeast nucleic acid is treated with dilute sodium hydroxide (1 per cent. solution) at room temperature it is decomposed into its nucleotides without formation of any free phosphoric acid or free purin bases, and also that de-aminisation does not occur. Guanine nucleotide, adenine nucleotide, and cytosine nucleotide are easily isolated in quantity, but uracil nucleotide could not be found, so that uracil derivatives from yeast nucleic acid must be secondary to the corresponding cytosine compounds.

Plant Phosphatides.—P. A. Levene and Ida P. Rolf ("Journal of Biological Chemistry," Jan. 1925, p. 759) have prepared a plant lecithin free from cephalin. The raw material was a commercial lecithin from soy bean. The soy bean lecithin contains stearic acid and palmitic acid, but the proportion of saturated to unsaturated fatty acids appears to be smaller in vegetable than in animal lecithin, in spite of a lower iodine number. Representatives of three different orders of unsaturation were found, namely, oleic, linolic, and linolenic types. Another distinguishing character for plant lecithin besides low proportion of saturated fatty acids is the absence of a longer carbon chain than C₁₈.

Synthetising Action of Pepsin.—H. Barsook and H. Wasteneys ("Journal of Biological Chemistry," Jan. 1925, p. 633) find that increasing amounts of protein are formed in concentrated peptic hydrolysates from protein when pepsin is present and the hydrogen ion concentration is at PH 4.0. The amount formed increases with rise in temperature up to the destruction point of the enzyme (beyond 72° C.). The optimum hydrogen ion concentration (PH 4.0) in peptic digests of egg albumin exerts its influence through some unidentified di-acid or amphoteric constituent of the digest. There is no appreciable auto-destruction of pepsin, and the amount of protein formed is partly dependent upon the concentration of pepsin.

Wheat, both as plant, whole grain, and products therefrom (bran and germ) continues to attract the attention of research workers, particularly as to the presence therein of a reproductive vitamin E. E. B. Hart, H. Steenbock and others ("Journal of Biological Chemistry," 62, p. 315) find that whole wheat plant maintains cattle and also results in reproduction when bone-meal, cod-liver oil and sodium chloride are included in the ration. This negatives previous supposition of a toxic factor in the grain. B. Sure (*loc. cit.*, p. 371) again reiterates the need of a special reproductive vitamin E to ensure reproduction, this being present in yellow maize, wheat germ or hemp seed. Some workers identify manganese with this reproduction factor, so that the "manganese number" determined by A. Schwicker ("Zeitschrift für die Untersuchung der Nahrungs- und Genussmittel," 48, p. 311) is of great interest in this connection. The "Manganese Number" is the number of c.c. of N/1,000

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potassium permanganate obtained on oxidation of 5 grams of flour. Manganese numbers for wheat products are : Bran, 43 to 44.5; germ, 56; whole grain, 13 to 18; barley 4.0, and oats 13.2.

Oleic Acid.—A. Lapworth, L. K. Pearson, and E. N. Mottram ("Biochemical Journal," XIX, No. 1, p. 7) have worked out a process of preparing oleic acid with less than 1 per cent. of impurity. The novelty consists in fractional distillation at 2-3 mm. pressure of the mixed oleic and palmitic acids obtained by alcoholic saponification of olive oil (after a preliminary purification of the lead salts by digestion with hot toluene and dehydrated lead acetate). The middle fractions contain the purest acid, the relatively volatile palmitic acid being in larger quantity in the earlier fractions. Further purification of oleic acid consists of conversion into barium oleate and recrystallisation several times from hot amyl-alcohol-toluene solution, and subsequent redistillation of the separated acid which distils at 170° to 175° at 2-3 mm. The purified acid contains about 2 per cent. palmitic acid, which lowers its melting point by about 0.5°. The authors agree with Kirschner in finding that oleic acid is dimorphous, a slow rise in temperature setting in after the rapid increase on supercooling to the setting point of the low melting modification. The acid sets at about 1.2°, and the stable form to which it reverts melts at 17° to 17.45°.

Antiscorbutic Value of Fruit Juices.—E. M. Delf has investigated the effect of prolonged storage on the antiscorbutic effect of fruit and vegetable juices, as regards which there has hitherto been practically no information. The results ("Biochemical Journal," XIX, No. 1, p. 141) prove that the idea widely held of the fugitive character of the antiscorbutic vitamin C is by no means justified. The living tissues of whole oranges or lemons and swedes retain their antiscorbutic properties as long as they are alive. The loss of vitamin C in the frozen orange or lemon juice was not appreciable after one year and five months, but was reduced to about half-value after five years. Canned orange juice (oranges processed 20-30 minutes, but contents at 100° for five minutes) kept at laboratory temperature for five years only lost 10 per cent. in activity. Canned orange juice was the most stable of the juices examined, which agrees with previous findings on heated juices. Frozen swede juice and canned tomato juice were much less stable on storage, probably owing to lower acidity. The addition of 0.06 per cent. of potassium bisulphite as preservative causes loss of four-fifths of vitamin activity on four and a-half years' storage. However, both orange and lemon juices can be preserved satisfactorily with rind oil at ordinary temperatures for one to three years.

Effect of Glycerophosphates and Phosphates in Bone Formation.—V. Korenchevsky and M. Carr ("Biochemical Journal," XIX, No. 1, p. 101) give the results of investigation into the effect of the mode of administration of calcium glycerophosphate on rachitic rats. Injection of calcium glycerophosphate considerably increased calcification of bone, whereas administration in food was without effect. Calcium glycerophosphate may probably be considered a weak therapeutic agent in the treatment of rickets as compared with cod-liver oil. Sodium glycerophosphate injections were effective to a much less degree than the calcium salt, while sodium dihydrogen phosphate produced practically no change. In a second article (p. 112) the same authors show that cod-liver oil and an ample calcium supply in the diet of the mother rat caused a marked decrease in disorders of general nutrition of young rats subsequently kept on diet deficient in fat-soluble vitamin. Butter did not possess this capability of enabling pregnant animals to use excess of calcium. R. Robison and M. Soames (*loc. cit.*, p. 153), who are making a chemical study of ossification in rachitic animals, find that defective calcification of bone is not due to deficiency of inorganic phosphate or to absence of specific phosphoric ester or enzyme, and

these are not increased by cod-liver oil. Thus other unknown factors are concerned in calcification of bone. The authors hope to investigate the relation between ionised and unionised calcium in plasma, as both this and enzyme activity are affected by hydrogen ion concentration.

Relation of Sterols to Vitamin A.—It has been shown that the exposure of foods deficient in vitamins A and D to ultra-violet light confers upon them growth-promoting and calcifying properties, and similar results have been observed following the exposure of inactive oils to these radiations. In consideration of these facts, J. C. Drummond, O. Rosenheim and K. H. Coward ("Journal of the Society of Chemical Industry," March 13, 1925) exposed samples of cholesterol obtained from cod-liver oil or brain and purified by at least eight recrystallisations to the radiations of a quartz mercury vapour lamp for periods up to two hours. Administration of as little as 1 milligram of this material produced in most cases a prompt and marked resumption of growth in rats stunted by maintenance on a diet deficient in vitamin A. Control groups given 1 milligram of unexposed cholesterol showed little or no response. This is, therefore, the first instance in which a vitamin has been produced from a definite chemical substance. The amount of active substance formed by the exposure must be very minute, since the irradiated cholesterol is quantitatively precipitated by digitonin. In other words, the amount of the active substances formed in these experiments, if the effect is a chemical and not a physical one, must be less than the error of this method of determination, which is very small indeed. That the change is a chemical one appears probable from the fact that the irradiated cholesterol gives certain colour reactions which are not given by either cholesterol or "oxycholesterol." It is interesting to note that the very active fraction obtained after removal of cholesterol from the unsaponifiable matter of cod-liver oil does not give the typical colour reaction with glacial acetic and sulphuric acids described for "oxycholesterol" by Lifschiitz, nor does it give the reaction after oxidation. It will be recalled that Zilva found that prolonged exposure of active oils to ultra-violet light led to a disappearance of growth-promoting properties, a fact recently confirmed by Spinka. The former investigator showed, however, that such destruction is due to the oxidative action of the ozone formed by the mercury vapour lamp. It is obvious, therefore, that the conditions for the maximum production of the active substance from sterols will have to be carefully investigated.

INDUSTRIAL CHEMISTRY

Colouring Matter of Lime Juice.—F. Hardy and F. H. S. Warneford ("Industrial and Engineering Chemistry," January, p. 48) state that the colour changes in lime juice stored in contact with air are due to oxidation of a polyhydroxy-phenolic constituent. This is a phlobaphene from the rind allied to eaffeotannic acid.

Non-Sulphating Lead Accumulator.—C. Féry, in a communication to the Paris Académie des Sciences on November 25, described a new type of accumulator with lead plates in which the construction prevents oxygen having access to the porous material of the negative plate. The object of this is to prevent formation of lead sulphate as a secondary reaction. A secondary battery of the new type left standing for two years charged normally, while another retained one-third of its charge after just over two years.

Synthetic Pepper.—The characteristic taste of pepper is due to the presence of piperin and chavicin, both of which are piperides, amides of piperidine, formed by the combination of the latter with an acid, under elimination of one molecule of water. In the case of the former the acid is piperic acid, and in the latter, chavicinic acid. "L'Union Pharmaceutique" (February, 1925) reports

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that it has been found that other piperides also exhibit the taste of pepper, and that a mixture of the piperides of cinnamic acid and of phenylcrotonic acid with a trace of phellandrene and 50 parts of flour is sold in Germany as a substitute for pepper.

Casein.—The variation in commercial caseins would appear to find an explanation in the results obtained by E. J. Cohn and R. E. L. Berggren ("Journal of General Physiology," 7, p. 45), who find that its capacity for combining with alkali is dependent upon the mode of preparation. One mole of sodium hydroxide (49 grams), combined with 735 grams of casein, in the preparation of which natural alkalinity was not exceeded, whereas this decreased to 535 grams when the alkali in the preparation used was high. The molecular weight of natural casein is given as being 12,800 or more, and it contains at least eighteen acid groups, with six more set free by alkali.

Selenium as a Flameproofing Compound.—E. G. Crocker ("Industrial and Engineering Chemistry," Feb. 1925, p. 163) finds that selenium metalloid 1 part imparts remarkable flameproof properties to 3.6 parts of cotton and 10 parts of rubber, forming the cotton braid for covering insulated copper wire. An outstanding feature is that the larger the bundle of wire, the more secure is the protection against flame. A heavily treated wire will flameproof a cable containing two untreated wires. Selenium may be used to flameproof paper, etc., but the amount needed is relatively large, the effect appearing to depend upon surface action.

Bentonite is a clay-like deposit of levericerite ($2\text{Al}_2\text{O}_3 \cdot 5\text{SiO}_2 \cdot 5\text{H}_2\text{O}$) occurring in Canada and the Western United States, especially Wyoming. Its formation is due to the hydration of vitreous volcanic ash, dispersed clay particles being coagulated and settled in thin deposits (up to ten feet thick). The Mines Branch of the Canadian Department of Mines, in Publication No. 626, gives timely information on this little-known material, which has an extraordinary absorptive power, swelling to about ten times its dry bulk and behaving like a colloid when water is added. It is thus an ideal base for toilet creams. It is also being used as a filler for paper and in the clarification of oils.

Total Sulphur in Rubber.—To carry out this test, 0.5 gram of the rubber is treated for one hour with 15 c.c. of nitric acid saturated with bromine, then heated on the water-bath for a further hour, and evaporated to dryness. The residue is treated with 3 c.c. of nitric acid and 5 grams of sodium carbonate, dried and fused, and the amount of sulphate is estimated by precipitation as barium sulphate. F. H. Alcock ("Analyst," December, 1924) states that there is a risk of loss of sulphate as sulphuric acid during the earlier part of the process, and for many years he has always added potassium nitrate during the treatment with nitric acid; this fixes the sulphuric acid formed, and the result is much more satisfactory. It is also desirable to eliminate the nitric radicle by evaporation once or twice with hydrochloric acid before proceeding to the final precipitation stage.

Rhodinol.—A. Lewinsohn ("Rivista Italiana delle Essenze e dei Profumi," December, 1924) describes the manufacture of rhodinol. A mixture of 120 kilos of Bourbon geranium oil, 9.5 kilos of potassium hydroxide and 25 kilos of alcohol (96 per cent.) is maintained at a temperature of 100° for two hours in an autoclave provided with an agitator. After cooling, the alcohol is removed by distillation, taking care not to push the process too far, or otherwise the product possesses an odour of being burnt. The residue, a dark red oil, is twice washed with water, then with dilute sulphuric acid, and finally with a solution of sodium bicarbonate. The oil is then dried by means of sodium sulphate, and rectified by distillation *in vacuo*. The crude rhodinol passes over between 115° and 120° at 12 mm. pressure, the yield amounting to about 75 kilos=62 per cent. of the geranium oil employed. To remove the traces of

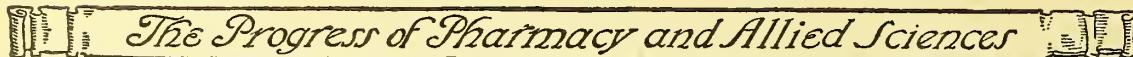
terpenes, the crude rhodinol is mixed with 50 kilos of acetic anhydride for 12 hours in an enamelled autoclave provided with an agitator. The resulting rhodinyl acetate is treated with hot water to decompose the excess of acetic anhydride, and rectified by distillation *in vacuo*, to separate the terpene acetate. Hydrolysis is then performed as follows: a mixture of 95 kilos of pure rhodinyl acetate, 20 kilos of sodium hydroxide, and 60 kilos of alcohol (96 per cent.) is gently boiled for three hours. When half the alcohol has been removed by distillation, water is added, and the liquid is allowed to separate into two layers. The upper layer is drawn off, and washed first with water acidulated with oxalic acid, and then with a solution of sodium bicarbonate until it exhibits a neutral reaction. The subsequent rectification *in vacuo* yields absolutely pure rhodinol, which distils over between 113° and 115°, at 12 mm. pressure.

PURE CHEMISTRY AND PHYSICS

Photochemical Decomposition of Sucrose.—P. Beyersdorfer and W. Kess ("Berichte," 57B, p. 1708) find that the degradation of sucrose solution under ultra-violet rays begins at about 20°, and increases rapidly with rise in temperature. Sodium acetate, which hinders inversion of cane-sugar, also prevents photochemical change to a great extent, but potassium chloride, iodide, or bromide, and magnesium chloride have little effect in stopping the splitting-up of sucrose, but chlorophyll inhibits the decomposition. Carameloid bodies, hydrogen, methane, alcohols, aldehydes, organic acids, carbon monoxide, and carbon dioxide are degradation products showing different stages of condensation and oxidation.

Short Length Wireless Waves.—Dr. J. A. Fleming, in "Nature" of January 24, discusses the questions raised as to the means by which wireless waves are propagated round the world. The length of short-wave transmission is limited by the aperture of the parabolic reflector, which consists of a skeleton mirror of vertical wires. Short wave lengths give signal strengths thousands of times greater than normal wave diffraction, and it is generally agreed that the effect must be due to ionisation of the high-level atmosphere. An electric wave sets ions in vibration in passing through ionised air, and if the free path of the ion is long (say, ten times) the distance it is moved the dielectric constant of the medium will be reduced and the wave velocity increased without much dissipation of energy. For a given ionic density the longer waves would appear to be more absorbed than short waves, but as each wireless ray has its own proper path from transmitter to receiver, the shorter waves travel at a higher level. It is the increase in speed of the upper part of the ray that causes the wave to curve around the earth, and the higher levels are less affected by day and night variations in conductivity. The practical value of 32-metre (100 ft.) waves is very great, perfect communication with Australia being maintained with a power of 10 or 12 kilowatts (18 h.p.) for transmission.

Molecular Films.—Sir William Bragg at the Royal Institution on January 16 gave a new significance to the black spot of the soap bubble so beloved of his predecessor Sir James Dewar. This black spot appears at once at the top of the film, a horizontal line separating it from various points of the film showing colour. The difference between the two sides of this boundary line is enormous, one side being hundreds of times as thick as the other. Black spots appearing in the thick part of the film rise to join the general black apical area, and look like tadpoles swimming to the top as they leave tracts behind them, this motion becoming less violent as the tails shrink to circular spots. The black spot is so thin that it reflects little light, but, as Dewar showed, it is not the forerunner of collapse, but a relatively stable arrangement which can be kept for many days, or even months. In this black spot Perrin showed there is but one layer, which, strangely enough, is the most stable of all. Other similar


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layers can be added until the films are thick enough to show Newton's rings, the colour being an indication of its thickness, proceeding from black to grey, becoming lighter to nearly pure white, then progressing to straw yellow, orange, red, to violet, about 37 steps ranging from 42 to 2,100 Ångström units. The length of oleic acid molecule being about 23 Ångström units would make the black spot two rows thick of oleic acid molecules with carboxyl units in the centre, with rows of molecules side by side forming a strong sheet. The x-ray analysis of solid films of long chain molecules (fatty acids, hydrocarbons, alcohols, etc.) also show the above peculiar arrangement when melted and pressed on plate glass or mica. Photographic plates from an x-ray spectrometer show "lines" indicating discontinuity in the distribution of the scattering centres at the ends of long molecules, hydrogen of the methyl group causing a defect, and oxygen of a carboxyl an excess, and it may be thus supposed that separate layers of molecules will be well marked in this way. The accuracy with which the film can be measured is within 1 per cent. The plot of spacing of any one series against the number of carbon atoms in the chain indicates that the points lie exactly in a straight line except when the chain is short, the increase for each carbon atom being about 1.0 Ångström unit for fatty acids and 1.3 Ångström unit for their esters. There is reason for supposing that the thicknesses are often actually the length of the molecular chain, but it is also certain that these molecules may not be normal but inclined to the surface when the thickness would be less than the length of a molecule. Fatty acid molecules form double layers, but hydrocarbon are single. Thus the monomolecular films of Langmuir, the multiple stratifications of Perrin, and the whole range of thin films have much in common. Yet there are significant differences; the molecules of oleic acid in water are only one way up, the perfect crystal of oleic acid contains twice as many orientations. In oleic-acid films reversed to each other on the two sides of a water film the conditions for completion of crystalline structure are perfect. Not only do the carboxyl groups meet, but they interlace each molecule of the one group linking together two or four molecules of the other, and *vice versa*. This is doubtless a far more stable arrangement than in the single film. The film formed is thus a real crystal, because it contains all molecular orientations, and the black spot is the thinnest possible flake of oleic acid in a mobile state, and solution cannot enter between the two surfaces united in crystalline fashion. The researches of Sir William Hardy and Miss Doubleday on boundary lubrication have established rules of surprising simplicity, in that "friction" nearly vanishes, or almost complete slipperiness is attained when a solid hydrocarbon lubricant is practically rubbed off the surface, and a true stratification is probably present in the very thin film left.

DENTISTRY

Treatment of Gingivitis.—J. L. Dudley Buxton ("Lancet," I, 1925, p. 245) recommends the following astringent mouth-wash in cases of inflammation of the gums:—

Zinci chloridi	..	..	..	aa.	gr. ii.
Zinci sulphatis	..	..	..	..	..
Spiritus chloroformi	..	..	..	..	..
Aq. menth. pip.	..	..	..	ad	3ss.

Ten drops in half a tumbler of water as a mouth-wash. All tartar should be removed before using such a mouth-wash.

Where there are tags of gum between the teeth an application of pure trichloroacetic acid may be found useful, administered for not longer than thirty seconds, to be repeated if necessary in a week's time. It is best applied to the tag of gum on a small pledge of wool. An excellent routine for the patient to carry out daily would be somewhat as follows. In the morning two or three drops of some cleansing preparation should be placed on the tooth-brush and all the teeth should be carefully cleaned and the mouth then

rinsed with the zinc astringent mouth-wash. Next, the gums should be massaged by pinching the gums with the finger and thumb towards the crowns of the teeth, and finally rubbing laterally with the index-finger. During the day the mouth should be rinsed out with the zinc mouth-wash two or three times. At bedtime some non-gritty tooth paste may be used, and this should be followed by careful massage with the fingers, using glycerin and tannic acid B.P. Some people do not tolerate tannic acid for more than a week, in which case some bland preparation as myrrh and borax is substituted, followed by a rinse of water as cold as the patient can stand. It is of importance for the patient to have a small tooth-brush, and one which is fairly stiff.

Protecting Dental Pulp.—J. P. Buckley ("Pacific Dental Gazette," 1924, p. 593) advocates the use of a "medicated artificial dentine" prepared as follows for lining cavities:—

Calcium phosphate	..	..	..	60	parts
Thymol	..	..	..	2	parts
Thymol iodide	..	..	..	3	parts
Bismuth subnitrate	..	..	..	5	parts
Resin	..	..	..	10	parts

When mixed with alcohol or chloroform, the preparation sets in a few hours. It has been introduced to the profession under the name Dentinoid by the author.

Dentifrices in Preventive Dentistry.—H. Brody ("Dental Cosmics," 1925, p. 43) considers that of the dentifrices on the market several are harmless, many are injurious, and all play a minor rôle in preventive dentistry. The effects of antiseptic dentifrices are of a few minutes' duration, and their use for preventing decay must be given up. They are, however, of value in certain pathological conditions of the mouth. Alkaline dentifrices cannot completely neutralise the acids, as a strongly alkaline one cannot be retained long enough in the mouth, and otherwise they are too dilute to accomplish the purpose. Prophylactic preparations must be free from danger so far as the mucous membrane, the teeth and the organism as a whole are concerned, while stimulating the salivary glands in a healthy individual is not necessary. The presence of a bacterial film is undoubtedly, but it occurs on teeth free and suffering from caries. This film can be removed by cleansing the teeth with a mild dentifrice and without scouring them, for the use of a gritty dentifrice will cut the teeth. Preparations for removing stains and bleaching the teeth are distinctly dangerous, as they contain corrosive acids which decalcify the enamel. All good tooth pastes and powders should contain a sufficient amount of best Castile soap to gain the advantage of its dissolving action on fatty substances. The purpose of a dentifrice is to assist in keeping the tooth surfaces clean. They are not absolutely necessary, but are quite useful. In tooth pastes, which are more popular than powders or liquids, glycerin would have a tendency to harden the gums, but it receives so great a dilution that it is doubtful if it causes a perceptible change in the gum tissue.

Treatment of Pulpless Teeth.—L. E. Claremont ("British Medical Journal," I, 1925, p. 216), dealing with the general aspects of the problem, states that treatment of deciduous pulps is impracticable, except perhaps in children from 3½ to 5 years of age. The treatment of permanent teeth could be considered under three headings:—(1) Devitalisation of the living pulp; (2) cleaning and filling of sterile canals; (3) treatment of septic teeth. The work of cleaning and filling canals should be carried out in an antiseptic atmosphere, and he considered tricresol as the nearest approach to the ideal antiseptic. The teeth should be isolated with rubber wiped over with this, and the instruments should lie in it. Secondary dentine or pulp stones might be absorbed out by sulphuric or hydrochloric acid. The use of mummificatory paste he viewed with distrust. If gutta-percha points were used for filling the canals, they

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should always be kept in formalin vapour and taken straight from this to the canal. Ionisation, using a solution of zinc chloride, with the positive pole so that chlorine was given off in the canal, was constantly used. His misgiving was whether all the organisms present in a spongy apex and beyond it had been killed. The apex was frequently necrotic, and it seemed almost impossible to prevent such a condition from being the source of further mischief. Surgical treatment might be considered as (1) preliminary sterilisation and filling of the root canal, followed by removal of the diseased periapical tissue; (2) preliminary sterilisation and filling of the root canal, followed by removal of the necrotic apex and the surrounding tissue (this, provided the patient was healthy, might be applied to the upper incisors, canines, premolars, and possibly the low incisors, with apical rarefied areas involving not more than one-fourth of the periodontal membrane); (3) extraction coupled with curettage (it was most important to curette thoroughly the apical region of the tooth sockets after extraction). Cases suitable for this last procedure were those involving the upper molars and most of the lower teeth, with large areas of destruction, and teeth with a sinus opening into the antrum, nasal fossa, or on to the skin.

ESSENTIAL OILS

Oil of Santolina Chamaecyparissus.—V. Massera ("Bollettino Chimico-Farmaceutico," January 30, 1925) examined the essential oil—20 grams—obtained from 15 kilos of a plant identified as *Santolina Chamaecyparissus*, Linné, collected in Cyrenaica. The oil presented the following characters: Sp. gr. at 15°, 0.9275; $[\alpha]_D^{20}$ —5.50; refractive index at 20°, 1.4632; acid number, 5.64; ester number, 114.60; ester index after acetylation, 164.40. No phenols were present; however, owing to the small amount of oil available, the author was unable to determine its constituents. Nevertheless, it will be seen that the above constants differ somewhat from those found in the oil from this plant by other investigators.

Oil of Ptychotis Verticillata Duby, D.C.—This umbelliferous plant is widely distributed throughout Southern Italy and in Sicily. V. Morani ("Rivista Italiana delle Essenze e dei Profumi," March 15, 1925) analysed the oil distilled from fresh plants in flower, an orange-yellow liquid with an odour of thyme, containing 42 per cent. of thymol and no carvacrol. In view of this high content of thymol, the author suggests that the plant might be utilised with advantage for the production of the latter in Italy. The oil exhibits the following characters: Sp. gr. at 15°, 0.92378; $[\alpha]_D^{20}$, +5°, 11; refractive index at 17°, 1.5027; acid number, 1.9; on standing, the oil becomes cloudy, and deposits a stearoptene. The fresh plant yields 0.809 per cent. of essential oil.

Calabrian Essential Oils.—A. Albricci ("Rivista Italiana delle Essenze e dei Profumi," February 15, 1925) publishes the results of a series of analyses of the essential oils distilled from aromatic plants cultivated in the Calabrian Experimental Station, and compares these results with those published by other investigators for the same oils. *Satureja Hortensis*. Sp. gr. at 15°, 0.8964; optical rotation at 15°, +0; phenols, 31.25 per cent.; saponification number, 5.60. *Majorana Hortensis*. Sp. gr., 0.8904; optical rotation, +7.56; acid number, 0.28; saponification number, 9.45. *Melissa officinalis*. Sp. gr. at 15°, 0.9026; optical rotation, -7.48; acid number, 1.19; saponification number, 44.32; saponification number after acetylation, 182.03; aldehydes (calculated as citral) 31.82 per cent.

Oil of Pimento Leaves.—Martha Kemp ("Archiv der Pharmazie," January, 1925) investigated a sample of the oil obtained from the leaves of *Pimenta officinalis* grown in Jamaica. The oil is a yellowish-brown liquid, with a pleasant, acidulous clove-like odour and a pungent taste; sp. gr. at 19°, 1.052. It was found to contain only the merest traces of aldehydes and ketones, the principal constituent being eugenol, of which the total content amounted to 96.6 per cent. (free eugenol, 95.5 per cent.). From 350

grams of oil 1.6 gram of an acid were obtained, of which 0.05 gram solidified to a crystalline mass, melting point 78°, while the liquid portion showed a boiling point of 70°-73°, at 1.7 mm. pressure. The constitution of the solid acid corresponded to the formula $C_{13}H_{14}O_4$, and that of the liquid acid to $C_{10}H_{14}O$. In the residue a sesquiterpene was found, which distilled over at 132°-138° at 17 mm., and proved to be caryophyllene, $C_{15}H_{24}$; sp. gr. at 19°, 0.911. $[\alpha]_D = -7.2$.

Oil of Zanthoxylum Ovalifolium.—The seeds of *Zanthoxylum ovalifolium*, which are widely distributed in the Indian Peninsula, have been recently examined ("Indian Forest Records," 1924, Vol. XII) in regard to their essential oil content. The oil, separated by distillation in steam, was yellowish-brown in colour, with a fragrant smell. The yield of oil from the whole seed and husk was approximately 0.3 per cent. The oil consisted essentially of myrcene and safrol. There was a trace of an optically active hydrocarbon (probably *l*-phellandrene). A small high boiling fraction was also obtained, which appeared to consist of a sesquiterpene alcohol. In addition, palmitic acid was also found, as well as a trace of a liquid phenol, which gave a deep red coloration with ferric chloride. The acids present in the oil in a combined state, which were volatile in steam, from an analysis of the silver salt, consisted apparently of a mixture of butyric (or *iso*-butyric) and valerianic (or *iso*-valerianic) acids. It is interesting to note the wide differences in the constituents of the oils present in the seeds of the species of *Zanthoxylum* occurring in India which have so far been examined.

Species	Chief constituents
<i>Z. alatum.</i>	<i>l</i> - <i>α</i> -phellandrene, linalol.
<i>Z. acanthopodium.</i>	dipentene, <i>l</i> - <i>α</i> -phellandrene, <i>l</i> -linalol, methyl cinnamate.
<i>Z. Budrunga.</i>	<i>l</i> -sabinene.
<i>Z. ovalifolium.</i>	myrcene, safrol.

Oil of Juniperus Communis (Indian).—The oil obtained from berries grown in India has been examined ("Indian Forest Records," 1924, Vol. XII) and the following report made:—The yield of oil was extremely poor, approximately 0.2 per cent., but sufficient was obtained to show that it differed somewhat in its composition from the normal juniper oil. Oil of juniper, which is as a rule flavoratory, has been shown to contain *α*-pinene, camphene, terpineol, *l*-cadinene and high boiling oxygenated bodies. The oil examined by the author was found to consist of about 50 per cent. of *d*-sabinene, terpineol, a small amount of *l*-cadinene and a considerable quantity of high boiling oils, which analysis showed to be a mixture of oxygenated bodies, probably sesquiterpene alcohols. *α*-pinene, which is stated to be present to the extent of 25-35 per cent. in the normal oil, could not be detected, whilst *l*-cadinene was only present in traces, and was identified by its colour reactions with sulphuric acid and by the preparation of the dihydrochloride and dihydrom bromide. The oil, therefore, resembles in its composition oil of savin, which is distilled from the twigs of *Juniperus sabina*, since the principal constituents of this oil have been shown to be *d*-sabinene, sabinol and cadinene. Owing to the inaccessible regions in which *J. communis* occurs in India, it is hardly likely that it could be used as a commercial source of oil of juniper. The oil, which was somewhat deeply coloured, had the following constants: D^{20} 0.8788, N^{20} 1.478, acid value 5.9, saponification value 21.2, saponification value after acetylation 49.1. It was too deeply coloured for an accurate determination of its rotation. These physical constants agree fairly well with those found for normal oil of juniper obtained from berries grown in Europe. (Parry gives the following values:— D 0.865 to 0.890, N 1.475 to 1.4880, $[\alpha]_D$ —3° to —20°, acid value 1 to 4, saponification value 2 to 8, saponification value after acetylation 15 to 25.)

Oil of Daerydium Cupressinum.—The red pine *Dacrydium cupressinum*, Salander, is abundant in the

forests throughout New Zealand. F. H. McDowall and H. J. Finlay ("Journal of the Society of Chemical Industry," January 23, 1925) extracted the oil from 236 lb. of leaves with terminal branchlets, obtaining 180 grams of oil, a yield of 0.17 per cent. Treatment of the oil in ether with a saturated solution of sodium hydrogen sulphite gave no trace of a bisulphite compound, indicating the absence of aldehydes and ketones. The ether solution was dried over sodium sulphate, and the ether removed. The oil, when allowed to stand, was found to deposit considerable quantities of a solid, in the form of large tabular crystals. After three recrystallisations from absolute alcohol, the substance gave the following constants: Melting-point, 55.5°; boiling-point, 320°; $[\alpha]_D$ (in chloroform), 53.7°; H 12.0 per cent., C 88.0 per cent.; molecular weight (cryoscopic method in benzene), 269. Calculated for $C_{20}H_{32}$, H 11.8 per cent., C 88.2 per cent.; molecular weight, 272. The substance produced no decolorisation of bromine water or of bromine in dry ether, and had no effect on potassium permanganate. It was thus shown to be a saturated pentacyclic diterpene. *Examination of residual oil.*—This was fractionally distilled at a pressure of 31 mm. The fraction boiling between 180° and 220° at that pressure was a blue oil from which a white, crystalline solid separated. This, after being freed from oil on porous tile and recrystallised from absolute alcohol, had a melting-point 40°-48°. The dark-coloured residue remaining in the distillation flask also crystallised on standing. The oily mass of crystals was drained on tile and the resulting white solid recrystallised from methyl alcohol, from which it separated in thin flakes, melting-point 92°, C 87.8 per cent., H 12.2 per cent. This solid also proved to be a diterpene. By repeated fractional crystallisations from alcohol, the substance of melting-point 40°-48° was shown to be a mixture of the two diterpenes of melting-point 55° and 92°, in which the former greatly predominated. The pure compound of melting-point 55°, when heated to its boiling-point and allowed to cool, showed a lowering of melting-point to 45°-52°, indicating the formation of a small amount of impurity by isomeric change. Hence, it is probable that the substance of melting-point 92° is formed by isomeric change from the lower-melting diterpene, during the course of distillation. Further fractionation of the small amount of oil remaining yielded a definite sesquiterpene fraction; boiling-point 152°-157° at 40 mm., nd^{20} 1.5005, d_{20}^{20} 0.9219, $[\alpha]_D$ (in chloroform) + 17.81°; C 88.1 per cent.; H 11.8 per cent.

FIXED OILS AND FATS

Rancidity.—C. A. Browne ("Industrial and Engineering Chemistry," January, p. 44) gives figures and curves containing the results of periodic analyses of butter fats exposed to air but kept in light or darkness at noon temperature since 1897. The theory is advanced that oxidation occurs at the unsaturated bond. The spontaneous decomposition is not uniform, but periodic, according to the relative humidity of the air, decomposition being most rapid when absorbed moisture is greatest. Unsaturated glycerides such as oleins would on this theory be more unstable than stearin or palmitin.

Oil of *Cosmos Bipinnatus*.—An investigation of the oil obtained from the seeds of *Cosmos Bipinnatus* by S. Berlingozzi and P. Badolato ("Bollettino Chimico-Farmaceutico," December 15, 1924) yielded the following results: Sp. gr. at 15°, 0.9174; melting-point, -4° to -1°; refractive index at 24.5°, 1.4717; acid number, 4.42; saponification number, 193.1; ester number, 188.68; Hehner index, 92.32; Reichert index, 1.27; relative iodine index, 103.8; absolute iodine index, 120.4. The oil occurs as a viscous yellowish-green liquid, with a disagreeable taste and odour, and the authors suggest that it might be used in the manufacture of soaps. The seeds contain 18.3 per cent. of oil.

Oil of *Salvia Sclarea*.—The seeds of this plant contain 23.9 per cent. of a light yellow oil, possessing a slightly aromatic odour. The following constants were established by S. Berlingozzi and P. Badolato ("Bollettino Chimico-Farmaceutico," December 15, 1924): Sp. gr. at -15°, 0.9303, at which temperature it remains liquid; refractive index at 15°, 1.4829; acid number, 1.24; saponification number, 192.82; ester number, 191.58; Hehner index, 94.78; Reichert index, 1.1; relative iodine index, 141.2; absolute iodine index, 199. In view of its siccative properties, its limpidity and practical absence of colour, the authors believe that this oil might, with advantage, be used in the preparation of fine varnishes.

Myrabola Oil.—E. Wernicke ("Chemiker-Zeitung," January 29, 1925) draws attention to a new oil for technical purposes, particularly for the manufacture of soap, prepared by a patented process from indigenous raw materials and placed on the German market under the above title. Its colour, chemical and physical properties vary within wide limits; it usually occurs as a pale yellow to light reddish-brown, more or less viscous liquid with an agreeable, faintly oily odour. Myrabola oil consists of a mixture of various fatty acids and their glycerides, and is saponifiable to the extent of 98.99 per cent. Spec. gr. 0.9552-0.9541; acid number, 13.30; saponification number, 166-217; iodine number, 70-100; glycerin content, 8.10 per cent.

Coconut Paring Oil.—E. F. Armstrong, J. Allan, and C. W. Moore ("Journal of the Society of Chemical Industry," XLIV, No. 7, pp. 61-68T.) give comparisons of the composition of coconut oils from parings and kernel as follows:—

	Coconut oil from "parings."	Coconut oil from kernels.
	Per cent. of acid	Per cent. of acid
Caprylic acid	2 (?)
Capric acid	2
Lauric acid	28
Myristic acid	22
Palmitic acid	12
Stearic acid	1 (?)
Oleic acid	23
Linoleic acid	10

The investigation arose out of the fact that "parings" oil is being placed upon the market. These oils have a decidedly higher content of free fatty acids as well as higher iodine numbers and saponification equivalents.

Pistacia Terebinthus.—This tree is fairly common in Asia Minor, Syria and Palestine, and its bark yields turpentine. The nuts are collected and ordinarily used as a food, either raw or roasted. The natives also use them as a source of oil, the latter possessing a sweet, slightly resinous taste. However, it soon becomes rancid on storage. An analysis of the nuts from Palestinian *Pistacia Terebinthus* by V. Timofeeff yielded the following results: Average weight of a nut, 0.0519 gram; fat, 36.92 per cent.; petroleum ether extract, 33.93 per cent.; moisture, 6.16 per cent.; albuminoids, 8.31 per cent.; ash, 3.05 per cent.; fibre, 25.02 per cent.; nitrogen free extract, 20.54 per cent. The average weight of one nut from trees growing in Asia Minor was found to be 0.1463 gram, with a fat content of 37.6 per cent. The characters of the oil expressed were: sp. gr. at 20°, 0.9184; saponification number, 193.5; iodine number, 89.5; Reichert-Meissl index, 1.1; Hehner index, 94.3; unsaponifiable matter, 0.61 per cent.; liquid fatty acids, about 76 per cent.; and free fatty acids, 2.9 to 4.7 per cent.

MATERIA MEDICA

Rhamnus Carniolica.—In a communication reviewing the properties of the various drugs exhibiting a purgative action based on their anthraquinone content, A. Vrgoc ("Farmaceutski Vjestnik," December, 1924) states that he has succeeded in isolating emodin—carniolica emodin—from the bark of *Rhamnus Carniolica*, A.K., and in view of its high content of active principle, he proposes that

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this indigenous variety of *Rhamnus* should be included in the new Yugo-Slav pharmacopœia.

Conium Adulteration.—A large consignment of conium fruit collected in Eastern Croatia and placed on the market by a Yugo-Slav drug house was found by A. Vrgoc ("Farmaceutskog Vjestnik," No. 8, 1923) to consist of the fruits of *Heracleum Sphondylium*, Linné. In describing the latter, the author states that this drug is mentioned by Dioscorides, and that other authors refer to its use as a condiment in Russia and in Asia, and to its medicinal action as an antispasmodic and sedative.

Latvian Opium.—Attempts have been made to cultivate opium in Latvia, grown from the seeds of *Papaver somniferum*, Lin., var. β -*glabrum*, Boiss., and samples of opium obtained from plants in the vicinity of Riga in 1923 showed a content of 12.53 per cent. of morphine. J. Maizit ("Latvijas Farmaceitu Zurnals," 1924, p. 143) reports that opium obtained in 1924 as a side product of the cultivation of the poppy for its seeds, which are extensively used locally, was found to contain 8.015 per cent. of morphine, 0.59 per cent. of codeine, and 2.87 per cent. of narcotine. The author points out that the weather during the summer of that year was moist and cold.

Masticogna Adulteration of Liquorice.—Reference has already been made to the use in Sicily of the extract of the root of *Atractylis gummifera*, known as "masticogna," as an adulterant for liquorice juice, and to the methods for its detection. P. Casparis ("Schweizerische Apotheker-Zeitung," February 28, 1925), in a communication dealing with the morphological and anatomical characters of this plant, draws attention to the presence of calcium oxalate crystals having the form of a compass-needle, a distinctive feature permitting the rapid recognition of masticogna in liquorice juice. A trace of the specimen to be tested is powdered and boiled with a few drops of solution of chloral hydrate on a slide; in adulterated liquorice the characteristically formed crystals are then apparent under the microscope. Casparis tested thirty-three commercial samples of liquorice juice, including seven from the London market, in none of which was he able to demonstrate the presence of masticogna, a result which he interprets as a proof that this form of adulteration has now been abandoned, since all these samples were manufactured in 1923, whereas in four samples known to date from the war and immediate post-war period masticogna was found to be present.

Genuine and False Jequirity.—J. Muszynski ("Acta Societatis Botanicorum Poloniae," No. 3, 1924) describes the seeds of four other Leguminaceæ which in their external characters—scarlet colour with a black spot—closely resemble those of *Abrus precatorius*, and gives the following differential characteristics: (1) Cotyledons contain starch in abundance, the granules measuring 20 to 60 μ in diameter, with a stellate fissure—*Rhynchosia precatoria*. (2) Starch almost absent, occurring in small granules of 3 to 12 μ , embedded in the oleaginous protoplasm, and only visible on the addition of iodised chloral; also crystals of calcium oxalate are to be found in the parenchyma of the cotyledons—*Erythrina Corallodendron*. (3) The cells of the cotyledons are thin-walled, filled with aleuron granules, each cell containing a very large (50 to 60 μ) granule and a stellate crystal of calcium oxalate—*Adenanthera bicolor*. The cotyledon cells are thick-walled, the oleaginous protoplasm contains no aleuron, and with Erdmann's reagent the tissue of the cotyledons assumes a yellow colour, changing in five to ten minutes to brown—*Abrus precatorius*. (4) If on adding Erdmann's reagent the initial yellow colour changes to violet within five to ten minutes—*Ormosia dasycarpa*.

Honey as a Restorative.—G. N. W. Thomas ("Lancet," II, 1924, 1,363) calls attention to the great value of honey as a restorative in health and sickness. When

muscular energy is required, and particularly after emotional stimulation of the sympathetic nervous system, there is found to be an increase of sugar in the blood. The various sugars found in the body may be classified among the mono- or the poly-saccharides: glycogen belongs to the latter group, and is apparently a storage product in muscles as well as in the liver. The energising effect of sugar on muscular effort has been proved by Schumberg's experiments with the ergograph. Nectar, which bees collect from various flowers, contains a special sugar which undergoes some change to honey. The question is whether honey does not contain some special vitamins, and if boiling destroys certain vitamins, then, presuming honey contains vitamins, there is an advantage in honey over commercial sugar. In severe cases of malnutrition with heart weakness he has found honey to have had a marked effect in reviving the heart's action, and keeping the patient alive, and in a recent case of pneumonia the patient consumed 2 lb. of honey during the illness; there was an early crisis with no subsequent rise of temperature and an exceptionally good pulse. Instead of depending on milk and beef extracts, as is done in so many cases of fever when the stores of sugar in the body are being rapidly used up, he suggests that honey should be given for general physical repair, and above all, for heart failure, and for reasons similar to those set out above, grapes constitute a valuable adjuvant.

MEDICINE

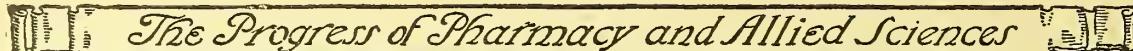
Ether in Whooping Cough.—R. G. Guinea ("Archivos Espanoles de Pediatría," October 1924) treated 302 children suffering from whooping cough by Andrain's method of intramuscular injection of ether. Up to the age of six months he injected 1 c.c. daily into the buttocks. Above this age he injected 2, 3 or 5 c.c. at a time on alternate days. The coughing paroxysms became shorter and less severe, and there was no further vomiting after one or two injections. The course of the disease was much shortened, a complete cure being effected with from two to eight or ten injections. Pneumonia developed after the ether was given in only one instance. The author reports that of the total number treated, 250 were cured, 35 improved, and 17 showed no modification.

High Acidic Value of Urine.—F. Carminow Doble ("Lancet," I, 1925, 272) points out that many skin conditions which have an abnormally high pH value in regard to urine are greatly improved or cured by administering alkalis. Such conditions include: Seborrhœic eczema, prickly heat, carbuncles, abscesses, boils and a generalised prurigo. The last-named condition is often seen in patients with a normal-looking skin. The mixture used by the author ("mild acidosis") is a modification of Dr. Langdon Brown's mixture for the treatment of the acidosis in diabetes. It consists of:—

Sod. bicarb.	...	...	...	...	...	...	30 gr.
Pot. bicarb.	...	...	...	...	...	...	25 gr.
Pot. cit.	...	...	...	...	...	...	20 gr.
Tinct. card. co.	...	...	...	...	...	...	30 min.
Aq. menth. pip.	...	...	...	...	...	ad 1 oz.	

This is given three times a day, between meals, increasing or decreasing the dose according to the pH value of the urine.

Psicain.—As a result of his experiments with psicain, E. Watson-Williams ("British Medical Journal," January 3, 1925) comes to the following conclusions regarding the properties of this dextrorotatory synthetic isomer of cocaine:—(1) Used in the nose, a 7 per cent. psicain solution gives anaesthesia identical with that produced by a 5 per cent. cocaine hydrochloride solution. The anaesthetic value of the new alkaloid is the same as that of natural cocaine. (2) The same "shrinkage" as is seen with cocaine is found in using psicain. (3) The experimental toxicity of psicain in 5 per cent. solution is three-quarters that of cocaine hydrochloride; the toxicity of the new alkaloid is therefore identical with


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that of cocaine. (4) It is probable that excitement, fainting, etc., will not be so readily produced by psicain as by cocaine; it may therefore be useful in susceptible persons. (5) For the same reason psicain should not be used except by those well accustomed to use cocaine; the dose of psicain should not exceed that found safe with cocaine.

Perlingual Administration of Insulin.—For a considerable period B. Mendel, A. Wittgenstein and E. Wolfenstein ("Klinische Wochenschrift," December 16, 1924) have been engaged in investigating the possibilities of administering insulin by the mouth. For this purpose they found it necessary to prepare a dry preparation free from any irritant antiseptic. With the assistance of Professor Laqueur, the authors succeeded in preparing tablets weighing 0.1 gram, each containing 15 clinical units of insulin. As a result of their clinical observations they come to the conclusion that, to obtain the same effect as that produced on subcutaneous injection, when given in tablet form the doses of insulin must be three times greater than the corresponding subcutaneous dose. However, the oral administration of insulin cannot entirely replace its hypodermic exhibition, which must be resorted to in severe cases requiring large doses. The tablets should not be swallowed, but must be well chewed in the mouth, taking care that on disintegration particles are not carried away by the saliva. This is to ensure as far as possible absorption through the mucous membrane of the tongue and oral cavity. Tablets for this form of administration have been placed on the German market under the name of "Insulingual Tablets."

Chlorine Treatment of Respiratory Affections.—M. F. Jones and C. Garofalo ("Archives of Oto-aryngology," January 1925) have treated about 300 patients with chlorine gas. In general, the concentration of the gas was increased almost to the limit of tolerance, which proved to be a concentration of 0.015 milligram per 1,000 c.c., as a general rule, but on very favourable days somewhat higher. In hay fever and in all allergy cases the treatment caused an increase of symptoms with distinct discomfort to the patient, and these patients were unable to stand even the concentration tolerated by the average patient. Tuberculosis is made worse, so far as subjective symptoms are concerned. In suspected tuberculosis there is an attack of coughing induced which easily might disseminate the causative organism. Five patients with whooping cough were treated. One showed no improvement, and four did not return for treatment, having had quite bad paroxysms during the administration of the gas. On follow-up, these patients reported an improved condition; but they could not be induced to return for a second treatment. The authors conclude that chlorinated air has no alleviating effect on patients with free pus in the nose or rhinopharynx. As a prophylaxis for acute respiratory epidemics, the authors' experience has been insufficient to permit conclusions.

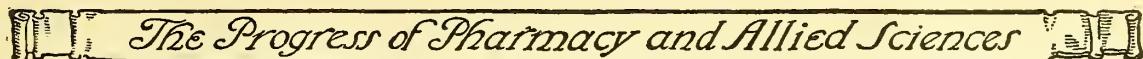
Infant Feeding.—D. Paterson and R. Darby report ("Lancet," I, 1925, p. 232) on an attempt to reduce to some sort of order their own and others' experiences in regard to infant feeding. They point out that the first essential is to think in terms of the amount of food required in twenty-four hours rather than in the individual feeds. It is stated by some authorities that when calculating the feed of an under-weight infant it should be calculated on the weight it should be for its age (the expected weight) rather than the weight which the infant actually is. The authors have never found this to be the case. The actual amount required lies somewhere between the amount calculated on the actual weight and the expected weight. To simplify matters, fifty cases of malnutrition in infants who were doing well although grossly under weight were analysed. The authors conclude that the following amounts per pound body-weight per day of various foods should be given to:

Thriving infants: Breast milk, $2\frac{1}{4}$ - $2\frac{1}{2}$ oz.; whole cow's milk, $1\frac{3}{4}$ oz. with sugar $\frac{1}{2}$ dr.; dried full cream milk, 2 dr., with sugar $\frac{1}{2}$ dr.; humanised dried milk, $2\frac{1}{2}$ dr.

Wasted infants: Sweetened condensed milk, 3-4 dr., plus emulsio ol. morrh.; dried full cream milk, $2\frac{1}{2}$ dr., with sugar $\frac{1}{2}$ dr.; dried humanised milk, 3 dr.; cow's milk, 2 oz., with sugar $\frac{1}{2}$ dr. To each infant a teaspoonful of cream or cod-liver oil emulsion should be given three times daily before its feed, and the total of the feed, whether cow's milk, dried milk, or condensed milk with water added, should not exceed $2\frac{1}{2}$ oz. of fluid per pound body-weight per day.

Sanocrysin Treatment of Tuberculosis.—I. Snapper ("Nederlandsch Tijdschrift voor Geneeskunde," Dec. 6, 1924) publishes a report of his impressions of the Möllgaard treatment of tuberculosis from observations made during a stay in Copenhagen. He emphasises its dangers, saying that the antitoxin given with the gold salt (sanocrysin), to protect against the tuberculin shock from the destruction of the tubercle bacilli, is not always a complete protection. The antitoxin acts only on the toxin released by the destruction of the bacilli, but there are other substances released, and these are not always biologically harmless. Möllgaard compares the treatment to a grave major operation; the fact that there is a certain mortality with such operations does not deter patients from taking the risk. Snapper states that the crucial test, the cure of tuberculous guinea pigs, has not yet been definitely established, because sanocrysin injures the kidneys of guinea pigs so that they are unable to stand more than 30 milligrams per 1,000 grams, an amount which is below the effectual dose. Calves tolerate 50 to 100 milligrams, and mice 120 milligrams. One point established is that the focal reaction to sanocrysin is so severe that the bacilli in the foci are mostly killed, and there is no spreading of the infection, but inoculation of guinea pigs usually shows a few surviving bacilli. The aim in this treatment is to act on the focus. Surgical tuberculosis and the cirrhotic forms of pulmonary tuberculosis show little effect, and the reaction is too severe to be applied to the eye, but Rovsing has reported good results in local treatment of tuberculous cystitis in five cases.

The Use of Intarvin in Diabetes.—D. Murray Lyon, W. Robson, and A. C. White describe their experiments with regard to intarvin in cases of diabetes mellitus under treatment ("British Medical Journal," I, 1925, 208). Intarvin is a neutral ester of margaric acid, $C_{16}H_{34}COOH$, with glycerol. Favourable reports had been made regarding the use of intarvin in acidosis. As a result of their experiments, however, the authors conclude that further investigations are needed before the claims on behalf of this fat in cases of diabetes can be fully substantiated. In the cases recorded no reduction, but rather an increase, in the amount of acetone in the blood followed the administration of intarvin. The rise, however, is less than when an equivalent quantity of other fat is added to the diet. The respiratory quotient did not at any time give indication of more carbohydrate than usual being burned under the influence of intarvin, as might be expected if the acid ultimately broke up to form sugar. On the other hand, the addition of intarvin to a stabilised diet always led to the excretion of small traces of sugar in the urine. The changes in the blood fat under intarvin are simply recorded. These cannot be explained as yet. When a patient's diet has been stabilised at his maximum tolerance, 100 grams of intarvin can be added (allowing about 700 extra calories) without the appearance of clinical signs of acidosis. But, in view of the conflicting figures obtained regarding the control of ketosis consequent on its use, intarvin cannot be used indiscriminately to build up diets to a maintenance level without fear of ketosis. The expense and the unpalatability of the substance will also militate against its general acceptance in practical dietetics.



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Treatment of Chronic Eczema.—H. G. Adamson, after describing common types of chronic eczema in children and adults ("Lancet," I, 1925, 350), considers methods appropriate for their treatment. It may happen that a chronic eczema will sometimes get well during a change of diet or under other altered conditions of living, such as residence in a new locality. The first rule is to avoid the intermittent contact with water, so that as far as possible the patient should wash the unaffected parts without getting into a bath. The affected areas must be continuously protected by some soothing application. One of the most generally useful is a modified Lassar's paste—i.e., Lassar's paste without salicylic acid—thus: Zinci oxidi, $\frac{1}{2}$ oz.; pulv. amyli, $\frac{1}{2}$ oz.; vaseline, 1 oz. The paste should be spread upon small pieces of butter-muslin or upon small sections of white open-wove bandage, and the spread pieces applied like a plaster. Over this is placed the thinnest possible layer of wool and a bandage of light material. This dressing is changed twice in the twenty-four hours, and at each change the old paste is very gently wiped off with olive oil before applying a fresh piece of spread muslin. Treatment should not be relaxed until the affected areas are completely well, or scratching or other irritation will soon bring it back. When progress is slow, in spite of careful protection in this way, more rapid improvement may be brought about by the addition of lenigallol to the paste or by the use of White's tar ointment. The prescription for the lenigallol paste would be: Lenigallol, 10-20 gr.; zinci oxidi, 2 dr., pulv. amyli, 2 dr.; vaseline, $\frac{1}{2}$ oz. For the tar ointment: Crude coal-tar, 1 dr.; oxide of zinc, 1 dr. (mix together and add starch powder, 1 oz.; vaseline, 1 oz., previously mixed). Each of these should be employed in the same manner as the zinc and starch paste. In cases of obstinate eczema, especially in infantile eczema, in chronic eczema in children, and in the patchy eczema in adults, rapid improvement may be obtained by the use of a tar paint, as follows:—Crude coal-tar, 1 oz.; collodion, 1 oz.; acetone, 1 oz. The tar paint is applied with a brush and allowed to dry on and the painting repeated every two or three days. In some cases of chronic eczema between the more acute attacks it will be found useful to apply without any bandaging a zinc and starch paste, or a zinc ointment (1 dr. of zinc oxide to 1 oz. of vaseline), with the addition to either of small quantities of one or other of the following drugs, or with a combination of two or more:—Oleum cadini, 5 min. to 1 oz. of ointment or paste; acid. salicyl., 5 gr.; acid. pyrogallic., 1-2 gr.; chrysarobin, 1-5 gr. to the ounce. Still another local application of the protective type is a zinc cream made, not in the usual way with olive oil, but with linseed oil, thus: Zinci oxidi, $\frac{1}{2}$ dr.; olei lini, 1 oz.; aq. calcis, 1 oz. This forms a flexible protective coating which is not greasy and need not be removed at each fresh application. X-ray treatment may be employed in all forms of eczema, and in chronic eczemas it is often invaluable.

OPTICS

The Eyes in Hot Climates.—A. F. MacCallan ("Lancet," I, 1925, p. 559), dealing with the care of the eyes in hot climates, states that trifling errors of refraction, or slight degrees of heterophoria, exert effects quite out of proportion to their actual severity, and he emphasises the importance of careful correction of these errors. In a country such as Egypt the healthy emmetropic eye of the European becomes painfully affected by the sun's glare in the summer when motoring or riding along dusty roads or over the desert. To prevent the effects of glare MacCallan advises the wearing of protective goggles of Crookes' B or B 2 material; but if discomfort is complained of the refraction of the patient should be verified under a cyclonelegic. There are, he states, other varieties of protective glasses, which theoretically are more absorbent of the heat rays than Crookes' glasses, such as peacock blue, Fieuzal and amber, but in his own experience of a large number of cases he found that ordinary

glass in which was included, if necessary, a very small ametropic correction, was all that was required. In dusty seasons it is most advisable to wash from the eyelids the dust which collects there and which may contain septic material. This should be done three times a day. In many cases he found this simple precaution sufficient to prevent constantly recurring attacks of conjunctivitis.

Susceptibility to Ultra-Violet Light.—Professor S. Russ and Sir Arnold Lawson ("Lancet," I, 1925, p. 127) have investigated the susceptibility of nocturnal animals to ultra-violet light. The experiments were the result of efforts during the war to improve the vision of seamen, when it was found that giving to the eye a certain fractional dose of blue and violet light its sensitiveness to very dim lights might be increased. Nocturnal animals were found to have, in general, a marked transparency to radiation which did not seem to be transmitted through the human eye at all. The range of radiations transmitted by the tiger's eye was not so great as in the eye of the night owl. Such a range of radiation entering the eye must, Professor Russ thought, contribute considerably to vision in a poor light, especially as shorter wave-lengths gave sharper images than did longer wave-lengths. Sir Arnold Lawson said the experiments threw some light on the power of nocturnal animals to achieve their purpose in light which would be quite inadequate for diurnal creatures. He considered that there were three possibilities: (1) Extra susceptibility to ultra-violet radiation might increase the consciousness of light in nocturnal animals, so that they could hunt successfully in a light which would be impossible for ourselves; (2) or there might be a greater power of image-formation, the longer visible spectrum giving a keener image; (3) the effect might be in both these directions. He did not know of any differences in the anatomy and physiology of eyes of nocturnal animals to account for their strange power. The experiments suggested a possible explanation of why people with apparently similar emmetropic refraction differed so widely in their power of image-formation. Some people were conscious of much shorter wave-length radiations than were others; was it therefore possible that in the eyes of people with extra keenness of vision there was an extra susceptibility to ultra-violet radiation? Could the gradations in keenness of vision be explained in this way? The problem of night-blindness was also illuminated by this research, for people so afflicted might have a lack of ultra-violet appreciation.

Miners' Nystagmus.—At a meeting of the Section of Ophthalmology of the Royal Society of Medicine on February 13, Dr. T. L. Llewellyn ("Lancet," I, 1925, p. 436), in a general review of the subject, contended that the chief factor in the production of the disease was deficient illumination of the mine on account of the low candle-power of the lamps used and the absorption of light by the coal. It appeared that the more the collier had to use his pick the more likely was he to develop the disease. Professor J. S. Haldane considered that the illumination required to prevent nystagmus was that which would permit foveal vision, and so fixation of the objects seen. Mr. H. S. Elworthy thought illumination could best be increased by putting in light colours, which would reflect more light into the eyes of the miner. By better illumination he did not necessarily mean greater candle-power. If what he termed the "chromophotic index" was over 500, he believed there would be no nystagmus. When an oil lamp was taken into a mine, its candle-power was diminished as the yellow and orange rays disappeared, leaving a bluish-white light. Blue and violet rays were the most irritating to the eyes, and when objects of these colours were looked at for any considerable time they tended to disappear. Exhaustion of the visual purple by those rays might well explain the eye movements in nystagmus, as the eyes avoided any continual fixing of these rays on any one part. Steam

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coal reflected twice as much blue as did house or anthracite coal, and among workers at the former nystagmus was much the more common. The carbon filament lamp produced an excellent light for the purpose, and could be regarded as ideal. What was being aimed at was a filtering glass which would reduce the blue to 5 or 6 per cent. It was agreed that, from the point of view of the prevention of nystagmus, a light of 0.9 candle-power was required in order to be within the margin of safety. In the Ebbw Vale group of collieries, with 4,600 men underground, there were forty-two cases of nystagmus in 1914, while ten years later there were only seven, and the only change which had been made in the equipment of the miners in the interval was the substitution of a yellow glass for the clear crystal. Given a correct glass and a sufficient light, he thought nystagmus would not occur at all. Mr. Binns said canary-coloured glasses for the miners had been found very useful. Mr. Pooley thought the right attitude was to examine the whole of the men working in a particular mine, and as far as possible, under the actual conditions in which they did their work. He had recently been testing vision in an extremely dim light, working with as little as 0.00006 candle-power. The normal eye could still detect colour with this, the visual acuity being 1/72 of the normal. It was very difficult to prevent the eyes oscillating when working in a very dim light. Dr. F. Robson considered the class of coal in connection with which nystagmus chiefly arose was the bituminous, as this contains a high percentage of volatile matter.

PHARMACOLOGY

Intraperitoneal Injection.—W. H. Zeigler ("Journal of the American Pharmaceutical Association," February, p. 85) states that for certain drugs, including adrenalin, pituitrin, caffeine, atropine and quinine, intraperitoneal injection is more practical than intravenous injection, and should be used when both rapid and lasting effect is desired.

Effect of Chemicals on Vitality.—H. Handovsky, E. Bois-Raymond, C. M. von Strauz ("Archiv für experimentelle Pathologie und Pharmakologie," 100, p. 273) have tested the action of chemical irritants on *Balantrapharus minutus*, using the rate of division of this protozoon as a measure of their effect. Histamine hydrochloride at first reduces the activity of the organism, but later it increased the rate of division. Amyl nitrite, arsenic and cantharidin inhibit growth, but the last two may occasionally show a stimulant action with some animals.

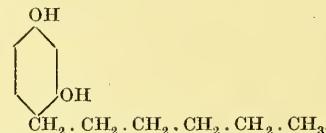
The Toxic Action of Chaulmoogra Oil appears to be due to esters of hydrocarpic acid, is the conclusion arrived at by B. E. Read ("Journal of Pharmacology and Experimental Therapeutics," 24, p. 221). Intravenous injection of ethyl hydrocarpate into rabbits causes lower calcium content of blood with associated hypersensitivity, followed by inco-ordination, death following respiratory failure. The toxic dose of ethyl hydrocarpate is 0.5 c.c. per kilogram body weight of rabbit. The same metabolic disturbances are produced by chaulmoogra oil, hydrocarpic acid or its glycerol ester.

Hæmostatic Action of Pectine.—Hæmostatic properties have been, and still are, attributed to a large number of plants, but for many of them the reason for this effect has not yet been definitely established. As a result of an analysis of several plants belonging to this category, H. Viole and De Saint-Rat ("Union Pharmaceutique," February 1925) found that they all contained pectine in varying proportions. Clinical tests conducted with sterile isotonic solutions containing 1 to 2 per cent. of pectine, prepared from rose leaves, gentian root, bitter orange peel, chestnuts, etc., showed that pectine does not produce an anaphylactic reaction, and is devoid of any toxic action. Doses of 50 to 80 c.c., given by the mouth, produced within an hour or two a very definite rise in

the coagulability of the blood, which lasted ten to twelve hours, and then progressively declined. No change in the viscosity of the blood, or in the blood pressure, was manifest.

Correlation of Aromatic Type with Anæsthetic Action.—H. Gilman and R. M. Pickens ("Journal of the American Chemical Society," 47, No. 1, p. 245) discuss the physiological action of local anæsthetics containing furan, thiophene and pyrrol nuclei from the viewpoint of correlation of physiological action with aromatic type. The data are based upon intracutaneous injections into human beings. With cocaine rated on an arbitrary standard as 10, approximate values were:—Procain, 6; diethylamino-ethyl benzoate, 4; diethylamino-ethyl 2-furan-acrylate, 3; diethylamino-ethyl 2-pyrrol-carboxylate, 2; diethylamino-ethyl 2-thiophene-carboxylate, 1; while diethylamino-ethyl 2-furan carboxylate has only a perceptible action. Diethylamino-ethyl acetate was without action. The weakness of diethylamino-ethyl-2-furan-carboxylate was somewhat surprising, but the most unusual result was observed with the diethylamino-ethyl ester of phenyl-propionic acid, which possessed a marked irritant action instead of the decidedly local anæsthetic action expected by analogy with the increase in action due to an ethylenic linkage.

Hexyl Resorcin.—V. Leonard ("Journal of the American Medical Association," December 20, 1924) reports the results of exhaustive pharmacological and clinical tests with this new compound, which has the following constitution:—



This substance is believed to be one of the most powerful organic germicides ever described; some of the phenol coefficient determinations have run as high as 52, the lower determinations being in the neighbourhood of 46. It retains its bactericidal power when dissolved in urine of either acid or alkaline reaction. After it had been determined that a 25 per cent. solution of this substance in olive oil could be swallowed without unpleasant effects, five normal men were selected for the purpose of testing the secretion of bactericidal urine during courses of increasing doses. These subjects varied in age from 23 to 66 years. The substance was given in olive-oil solution in gelatin capsules, the concentration varying from 20 to 50 per cent. Three doses were administered daily; the first at 9 a.m. (about one hour after breakfast), the second at noon (before the midday meal), and the third at 4 or 5 p.m. Each subject received during these tests a total of more than 45 grams, in doses ranging from 0.13 to 0.68 gram three times a day. Much larger quantities than this have since been taken by patients with urinary tract infections without toxic effects. None of the five normal subjects experienced any toxic symptoms at any time. The following summary is given of the results of these clinical tests:—The results to date justify the use of hexyl resorcin as an internal urinary antiseptic in chronic urinary tract infections in adults: (a) In urinary tract infections due to *Staphylococcus albus*, *Staphylococcus aureus*, the streptococcus and some strains of *B. pyocyanus*, oral administration of hexyl resorcin, without other treatment, has resulted in prompt and complete disinfection of the urinary tract, with consequent clearing of the urine and disappearance of symptoms. No recurrences have been observed after several months without treatment. (b) Urinary tract infections due to *B. coli* have been cleared up completely with no other treatment than hexyl resorcin by mouth, and have not recurred on discontinuing treatment for several months. Cases with high counts

of *B. coli* in the urine are extremely resistant even to intensive courses of the drug, and evidence is increasing that failure on the part of hexyl resorcin to complete the disinfection of the urinary tract in these cases indicates the existence of pyelonephritis. (c) In mixed infections of the urinary tract with *B. coli*, together with any of the foregoing organisms, the urine has shown a pure culture of *B. coli* shortly after the starting of treatment, all other organisms having been killed off.

Therapeutic Value of Glucose.—T. Izod Bennett and E. C. Dodds ("Lancet," I, 1925, 429) describe the results of an investigation to determine the therapeutic value of glucose. Large quantities of glucose have been added to the diet as a therapeutic measure in many clinical cases, particularly in (a) acute infections, and (b) cases with marked undernutrition. Distinct benefit appears to have resulted, and no ill-effects have been observed. In some of these cases the glucose administration was accompanied by small doses of insulin. The formula employed is as follows: Commercial glucose, 1 lb.; water, 1 quart; lemons, two. The glucose is dissolved by stirring into the boiling water, the lemons are squeezed into the solution, then cut in quarters, boiled with it for a few minutes, after which the solution is cooled and strained. A patient will drink daily upwards of a pound of glucose so prepared in small drinks between or with meals. For experimental purposes a similar but more exact formula was used: Commercial glucose 1 lb. (i.e., 450 grams); water, about a pint; lemons, two. A solution is made as before, and, after cooling and straining, its total volume is made up to 900 c.c., so that the final solution contains 1 gram of commercial glucose in every 2 c.c. of fluid. Stronger solutions than this are syrupy, and cannot be drunk readily, but this is only slightly stronger than the average home-made lemonade. For a long time and in a very large number of patients use has been made of this preparation, giving quantities equal to one pound or more daily, and the following properties are those which give indications for its employment: It is palatable and can be assimilated in quantities which materially increase the daily calorie-intake without greatly affecting the patient's appetite; it is absorbed with less call for work by the digestive glands than almost any other substance; physiological and clinical observations show that it evokes very little, if any, secretion of hydrochloric acid by the stomach; being in complete solution it evokes very little motor response from the stomach during its passage into the intestine; and it provides the tissues with the ideal substance (glucose) for counteracting any tendency to acidosis.

Pharmacology of Psicain.—A. J. Copeland ("British Medical Journal," January 3, 1925) states that on the cornea psicain has approximately one-sixteenth the anaesthetic power of cocaine. In rabbits psicain, injected subcutaneously, was found to be more toxic than cocaine, whereas injected intravenously the two drugs are of almost equal toxicity. Guinea pigs and mice are relatively less susceptible to psicain. Both cocaine and psicain give rise to symptoms identical in character though not in degree. Experiments on frogs show that psicain is a more powerful stimulant than cocaine, since it will more readily increase reflexes and will even produce convulsions, which cease when the cerebrum is destroyed. In rabbits, following a preliminary stage of excitement during which reflexes are increased, there is a sudden tonic spasm, and this is succeeded by a stage of marked clonus in which there are violent spasms of the limb muscles, together with twitchings of the muscles of the head area. The irritant effect of psicain is less than that of cocaine. In rabbits 0.5 c.c. of a 10 per cent. solution of psicain injected subcutaneously causes slight hyperæmia, followed by thickening lasting two days and some desquamation on the fifth day, whereas cocaine in similar concentration produces ecchymosis and thickening lasting three days, followed by scab formation. Psicain has relatively little effect on blood

vessels, and its action suggested that psicain would not cause any swelling of the nasal mucous membrane. This, however, is not the case in the cat, since it was found that after an application of a 5 per cent. solution of psicain lasting twenty-five minutes the mucous membrane became so swollen as almost completely to obstruct the flow of fluid—an effect which lasted for several hours. The author gives the results of experiments to establish the activity of psicain compared with that of cocaine, tutocain and novocain; the figures refer to the duration of complete loss of conductivity in minutes:—

	Cocaine hydrochloride	Tutocain	Psicain	Novocain
Vagus nerve: cardiac fibres	0.1% 12	0.1% 10	0.1% 5.8	0.1% 0
Anterior crural nerve: sensory fibres	0.05% 15-20	0.05% 5-8	0.05% 0	0.05% 15-10

Copeland estimated the toxicity of psicain by determining the minimum lethal dose for rabbits, guinea-pigs and mice, and obtained the following results:—

	Cocaine	Psicain	Novocain
Rabbit—	mg. per kilo.	mg. per kilo.	mg. per kilo.
Intravenous: 1 per cent. solution	12	14	90
Subcutaneous: 5 per cent. solution	75	40	600
Guinea-pig—			
Subcutaneous: 2 per cent. solution	30	40	Over 350
Mouse—			
Subcutaneous: 2 per cent. solution (dose in mg. for 10 grams mouse)	5	7-10	18

PHOTOGRAPHY

Developing and Fixing Solution.—A. and L. Lumière and H. Seyewetz ("Revue Française de Photographie," No. 122, 1925, p. 21) state that the following formula for a combined developing and fixing solution gives vigorous images comparable with those obtained, for the same exposure, with a normal diamidophenol developer:

Sodium sulphite, anhydrous	..	..	4 gm.
Diamidophenol hydrochloride	..	..	0.5 gm.
Sodium phosphate (tribasic)	..	..	2 gm.
Sodium hyposulphite	..	..	2.5 gm.
Water to	..	..	100 c.c.

The authors state there is always a slight dichroic fog in the shadows. The time of development with Lumière "Blue Label" plates is fifteen to eighteen minutes at 15°. Kept in a stoppered bottle, the developer can be used for two days after being made up.

Cream Tint on Development Papers.—Bernh. Hedlund ("British Journal of Photography," 1924, p. 103) describes the following method for producing a cream tint on bromide or gaslight papers: The print is made and developed in the ordinary way and then immersed in a bath of glacial acetic acid and water (3j. in Oj.). After being in this for a little while the print is placed, face upwards, on a sheet of glass and the moisture thoroughly removed with a piece of "washleather." A suitable mask is then placed over it, and after exposure for a few seconds to daylight the print is fixed in the usual way, or preferably in such a bath as:—

Hypo	..	..	..	4 oz.
Sodium sulphite	..	..	..	1 oz.
Water	..	..	..	20 oz.

For sepia toning the print requires a much deeper tint than if finished off as black.

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Sulphide Fog Produced by Bacteria.—M. L. Dundon and J. I. Crabtree (Communication 218, Eastman Kodak Research Laboratory) have found that in two samples of tank developers which suddenly began to give excessive fog, the concentration of sodium sulphide was approximately 0.005 per cent. and 0.02 per cent. respectively. Certain unidentified fungi and several species of bacteria were found living in the fogging developer. When free sulphur was added to a developer, sodium thiosulphate or other poly-thio salts were formed, but no sulphide could be detected. The formation of sulphide from thiosulphate or rubber in a developer is, therefore, improbable. The formation of sulphide in developers was reproduced experimentally in the laboratory by adding yeast or slime. The evidence, therefore, indicates that the sulphide in the fogging developers investigated was formed by reduction of the sulphite by living organisms. When a developer is used continuously, the dissolved silver precipitates the sulphide as fast as it is formed, and no fog is produced. A developer which gives sulphide fog can be revived by the addition of a small quantity of lead acetate, which precipitates the sulphide as lead sulphide, or by developing a quantity of waste film therein. About 0.5 gram of crystallised lead acetate per litre of solution should be sufficient in most cases.

Preventing Aerial (Development) Fog.—Pathé-Cinema Laboratories ("British Journal of Photography," 1924, p. 107), following the investigations of Dundon and Crabtree (C. & D., II, 1924, p. 928), have found that basic scarlet N (C. & D., II, 1924, p. 927) is an effective protection against aerial fog. At a concentration of the desensitising dye of 1 part in $1\frac{1}{2}$ million parts the protection is just noticeable. But it is quite positively shown at a concentration of 1 part in 100,000, and in the case of results made with a developer of this latter dye concentration the following measurements were obtained:—

Normal developing solution	Part of film not withdrawn from developer and thus free from aerial fog	Fog density, 0.09
	Part of film withdrawn and immersed alternately	Fog density, 0.18

Thus with a normal developing solution the value of the aerial fog is equal to 0.09. On addition to the developing solution of one or other of several desensitisers, the density of this fog is considerably reduced. The following are the results obtained:—

Pinacrytol, 1 : 100,000	Aerial fog density, 0.04
Phenoxyfranine, 1 : 100,000	Aerial fog density, 0.03
Basic Scarlet N. 1 : 100,000	Aerial fog density, 0.01

At this concentration it is thus seen that basic scarlet N is the most active agent of the three in preventing this fog. A concentration of the dye of 1 : 200,000 appears to be the most convenient, since it is low enough to avoid subsequent precipitation.

Hypo Elimination.—A. E. Amor ("British Journal of Photography," 1925, p. 18) divides hypo eliminators into two classes (1) those which function by osmotic action, and (2) those which have chemical action on the hypo, and has investigated the efficiency of these compounds. Considering the first class, the following table shows the results for the different concentrations used:—

—	Change	Caustic soda solution					Water only
		1.0%	0.5%	0.2%	0.1%	0.03%	
Grams of hypo cryst. in print after	1st rinse	0.020	0.020	0.020	0.020	0.020	0.020
	Eliminator	0.017	0.008	0.008	0.008	0.007	0.008
	2nd rinse	0.006	0.005	0.003	0.004	0.004	0.005
	3rd rinse	0.0033	0.0028	0.0018	0.0023	0.003	0.0033

The figures bring out the following important points:—(1) That a concentration of about 0.2 per cent. makes the most efficient eliminator of this class, and that for weaker or stronger concentrations than this the efficiency decreases rapidly; (2) from this it follows that the action

of caustic alkalis in this connection is not entirely osmotic, or the efficiency would increase with concentration; (3) that the eliminating action of the solution takes place only while the print is in the bath, and its effects are not felt in the subsequent washing; (4) comparing the figures with those given in the last column, where the eliminator bath has been replaced by an extra change of water, it appears that 1 per cent. and 0.03 per cent. solutions of caustic soda are practically useless, and that even where 0.2 per cent. caustic soda solution has been used, the print at the end of four changes contains over half as much as one merely washed in four changes of water. Turning to the second class of common eliminators, three representative formulas were used, and the following results were obtained:—

—	Change	Per-sulphate	Per-oxide	Per-manganate	Water only
Grams of hypo cryst. in print after	1st rinse	0.020	0.020	0.020	0.020
	Eliminator	0.0055	0.0065	0.007	0.008
	2nd rinse	0.0028	0.004	0.004	0.0045
	3rd rinse	0.0018	0.0025	0.0025	0.0033

Here again the advantage of using an eliminator bath is not very marked. The persulphate formula appears to be the most efficient, and the reason for this is possibly due to the presence of the sodium carbonate, which is acting in a similar way to caustic soda. In a strictly practical sense the advantage gained from the use of any of the above eliminators is so small as to be negligible if the prints are treated otherwise in exactly the same way, and two changes of water substituted for the eliminator bath will do the same work.

VETERINARY MEDICINE

Arecoline Hydrobromide as an Anthelmintic.—I. C. Ross ("Journal of Comparative Pathology and Therapeutics," 1924, p. 246) states that arecoline hydrobromide exhibits a high percentage of efficiency against tape worms in dogs, but a low one against ascarids and probably against other nematodes. Arecoline hydrobromide may be safely administered in aqueous solutions containing one-sixteenth grain per drachm in the following dose rate: Dog, 5 to 10 lb., gr. $\frac{1}{16}$; dog 10 to 20 lb., gr. $\frac{1}{8}$; dog 20 to 30 lb., gr. $\frac{1}{4}$; dog over 30 lb., gr. $\frac{1}{2}$. In the case of small and highly strung dogs or puppies, near the lowest limit for the scale prescribed, the dose may be lessened somewhat. The administration of arecoline in the above doses has never been followed by any adverse effects. It is best administered when the stomach and small intestine are empty.

Jaundice in Dogs.—C. C. Okell, T. Dalling and L. P. Pugh ("Veterinary Journal," 1925, p. 3) attribute the commonly occurring enzootic jaundice of dogs (yellows) to infection with *Leptospira icterohaemorrhagiae*, which is normally carried by a considerable percentage of rats in this country, and suggest the following measures for combating the disease:—(a) Protection of kennels and food from rats. Disinfection of infected kennels. Dry and hygienic condition of floors and bedding. (b) The elimination of "recovered cases" from kennels until it has been proved that they are not excreting leptospiræ in their urine. (c) Complete but temporary protection against the disease is apparently given by passive immunity with a potent anti-leptospira serum. (d) Active immunity will probably be given by suitable doses of a vaccine made from dead or attenuated leptospiræ. The results obtained in the treatment of the disease with potent anti-leptospira serum have been encouraging, and the following general treatment has been found of advantage: The administration of liquid paraffin by mouth and the withholding of all drastic purgatives. Enemas of normal saline solution till a free action of the bowels is obtained. Liquid diet of milk, water, and raw eggs.

Personalities

MR. D. W. GIDDINGS, chemist and druggist, Morecambe, has been elected captain of the Heysham Golf Club.

MR. F. A. BLOOR, chemist and druggist, Longton, has been elected to the committee of the local traders' association.

MR. HENRY W. DIX, chemist and druggist, Pontypool, who has been seriously ill since March 4, is now making slow but satisfactory progress.

MR. A. LESLIE ROGERS, Chester, has been appointed to represent the Liverpool branch of Francis Newbery & Sons, Ltd., druggists' sundriesmen, London, in Cheshire and North Wales.

MR. R. W. H. MELLOR, a director of Ockelfords, Ltd., manufacturing chemists, Brisbane, is expected in London shortly, and may be addressed c/o H. B. Sleeman & Co., Ltd. 84 Leadenhall Street, London, E.C.3.

MR. WILFRED HARDING OWLES, son of Mr. D. H. Owles, chemist and druggist (proprietor of J. R. Faulkner & Co., chemists, 173 Ladbroke Grove, London, W.), has been awarded the Stanfeld scholarship of £60 per annum, for biology, at Exeter College, Oxford.

DR. G. CLARIDGE DRUCE, M.A., Oxford, exhibited at the Royal Horticultural Society's recent show about fifty British plants which had either been discovered in Britain or described by himself. They included:—*Orchis praetermissa*, *O. Fuchsii*, *Plantago Edmondstonii*, *Bromus interruptus*, *Sagina scotica*, *Thymus Drucei*, *Ronn.*, *Centaurea Drucei*, *Britton*, *Crepis Drucei*, *Murr*, *Sedum Drucei*, *Graebner*, *Taraxacum Drucei*, *Dahli*, *Bursa Druceana*, *Alinquist*, *Saxifraga Drucei*, *Marshall*, *Potamogeton Drucei*, *Fryer*, *Mentha rubra v. Drucei*, *Briquet*, *Kaeria vallesiana*, *Orobanche Ritro*, *Agrostis verticillata*, and *Spergularia atheniensis*. Dr. Claridge Druce is leaving England for Palestine and Egypt this week, and is hoping to explore the Lebanon district.

Wills

MR. HORATIO NELSON BOLTON, Ph.C., The Crossways, Dormansland, Lingfield, Surrey, chairman of T. F. Bristow & Co., Ltd., manufacturing perfumers, Colindale London, N.W.9, who died on December 15, left estate of the gross value of £1,241 15s. 9d., of which £501 1s. 4d. is net personalty. Probate of the will has been granted to his daughter, Mrs. Priscilla Mary Walker.

MR. JOHN WALKER, J.P., retired chemist and druggist, Ettrick Bank, 5 Melfort Avenue, Dumbreck, Glasgow, late of the Glasgow Apothecaries' Co., Ltd., who died on January 18, left personal estate valued at £6,138 11s. 5d. Probate of the will has been granted to Jeanie Clark, Ettrick Bank, 5 Melfort Avenue, Dumbreck, Glasgow, and Mrs. E. Johnstone, 2 Marlborough Gardens, Clarkston.

MR. HORACE DAVENPORT, pharmaceutical chemist, Rodbury, Uxbridge Road, Kingston-on-Thames, who died on January 22, has left property of the value of £33,626 11s. 11d., with net personalty £30,597 10s. 5d. The will is proved by Reginald B. Turner, 8 Warwick Road, Ealing, W., nephew, Norah K. Thompson and Lilian Davenport, 14 Uxbridge Road, Kingston-on-Thames, daughters, and Lewis E. Sitzler, Linkwood, Thames Ditton, son-in-law. He gives £250, the household effects, and £750 a year to his wife, £50 a year to his sister-in-law, Eliza Pirie, an annuity of £50 to his brother-in-law, William E. Pirie, and his wife, £50 a year to Reginald B. Turner while he shall act as trustee of the will, and the residue of the property in trust for his children.

Marriages

SCAMPTON-MILLER.—At East Cliff Congregational Church, Bournemouth, on March 18, Victor James Scampton, chemist and druggist, to Jessie May Miller.

Deaths

CLARK.—At Rotherham, on March 11, Mr. Clement Beatson Clark, J.P., chairman of Beatson, Clark & Co., Ltd., medical-glass manufacturers, aged ninety.

Mr. Clark was born on February 8, 1835, and consequently lived in the reigns of four sovereigns. The business of which he became the senior director was founded in 1751 by the Beatson family, who were among the pioneers in the British glass industry. The works have been continuously in the hands of the same family ever since, and in 1910 the firm was converted into a private limited company. Mr. Clark had distinct recollections of the pre-railway days, when bottles were conveyed in horse-drawn wagons from the Rotherham works to various destinations. After a few years' experience in Canada, he returned home in 1865, on the death of his uncle, Mr. William Clement Beatson, to take over the management, and remained at the head of affairs for sixty years. For several weeks before his death Mr. Clark had been seriously ill. The funeral, which took place on March 14, was attended by a large gathering, including representatives of the staff and employees of Beatson, Clark & Co., Ltd., and members of many public and private bodies, testifying to the esteem in which Mr. Clark was held by all who came into contact with him. The photograph we reproduce was taken at an earlier stage of Mr. Clark's career.



MR. C. B. CLARK, J.P.

GRADIDGE.—At Upper Norwood, London, S.E., on March 12, Mr. James Henry Gradidge, Ph.C., aged sixty-four. Mr. Gradidge carried on business for thirty-five years at 393 Mile End Road, E.3. He retired in 1922, and disposed of his business to A. & N. Catto, Ltd., chemists, Ilford.

HOBLYN.—Recently, Mr. Edward Robert Hoblyn, chemist and druggist, 3 King Street, Plymouth. Before moving to King Street, six years ago, Mr. Hoblyn, who qualified in 1891, had been established in Union Street for a long period.

MARSDEN.—On March 19 Mr. Herbert Harold Marsden, M.R.C.S., L.R.C.P., chemist and druggist, 195 Walton Lane, Stanley Park, Liverpool, aged forty-one. Mr. Marsden served his apprenticeship in pharmacy to Mr. Ewart Jepson, chemist and druggist, Darwen. He passed the Qualifying examination of the Pharmaceutical Society in 1905, and for some years carried on business in Walton, Liverpool. Eventually he decided to study for the medical profession, and qualified in 1922. His early death is deeply regretted.

WOOD.—At Oldham, recently, Mr. Charles Granville Wood, chemist and druggist (senior partner of Granville Wood & Co., wholesale druggists, Ascroft Street), 1 Croft Brow, Hollins Green, aged sixty-one. Mr. Wood was apprenticed to Mr. H. L. Hargreaves, Ph.C., Oldham, and established himself in business as a wholesale druggist thirty-five years ago. He was a member of the Oldham Microscopical Society and a lover of books and music. A widow survives him. The Oldham and District Pharmaceutical Association was among the institutions sending wreaths to the funeral, which took place at Chadderton Cemetery on March 19.

WYLLIE.—At 2 Whitehall Road, Gateshead-on-Tyne, on March 22, Mr. Alexander Dick Wyllie, chemist and druggist. Mr. Wyllie qualified in 1898.

Trade Notes

CAMERA CASES in various materials are the special manufacture of John Douglas, Sons & Co., Ltd., Trindle Works, Dudley.

HAIR WAVING.—Standen & Perks, 271 Great Lister Street, Birmingham, advertise the Lister waver for bobbed hair. There is a large demand for waving instruments for the fashionable bobbed hair, and chemists who have not met the demand should consider this offer.

ASHES OF ROSES SHOWCARD.—A. Bourjois et Cie, Ltd., 4 Water Lane, London, E.C.4, in their advertisement in this number, depict in black and white their new showcard for Ashes of Roses vanity bag compact powder. The original card is in colours, and measures $7\frac{1}{2}$ in. by 6 in.

OSTELIN IN GLYCERIN.—Glaxo notify us that the price of this preparation is advanced to 2s. 6d. per phial, trade price 22s. 6d. net, per dozen phials. Single phials can be obtained by chemists direct from Glaxo House, 56 Osnaburgh Street, London, N.W.1, at 2s. each (cash with order), including postage.

FARINA COLOGNE.—The proprietors of the eau de Cologne, Johann Maria Farina gegenüber dem Julichs

Platz, Cologne, have decided to vary the well-known script label by adding the trade-mark, the *Origin* seal, shown here, at the top of the label. This is to be a feature of the advertisements in future. Messrs. Blackaller & Pleasance, 8 Laurence Pountney Hill, London, E.C.4, ask chemists to notify them of stocks held so that these can be ex-

changed for supplies of the new label.

BROOKS & WARBURTON, 40-42 Lexington Street, London, W.1, call attention in their advertisement to the new prices for Daggett & Ramsdell's cold cream. The sizes range from 6d. tubes to 7s. 6d. jars.

VULPRO WATERPROOF SHEETING.—Vultex Products, Ltd., General Buildings, Aldwych, London W.C.2, call attention to a new waterproof sheeting made by a new process from vulcanised latex. Vulpro sheeting is sterilisable.

REDUCINE.—The Reducine Co., Dublin, has been purchased by the relatives of the late Mr. T. D. Lambert, veterinary surgeon, and Reducine is now manufactured from the original recipe. The price has been revised at 12s. 6d. per tin.

GERMAN ESSENTIAL OILS.—T. Harrison & Co., Burnley House, Willesden, London, N.W.10, are sole agents in the United Kingdom for E. Sachsse & Co., Leipzig, manufacturers of essential oils. Mr. E. Harrison, manager for Messrs. Harrison has just returned from a trip to France and Germany and visited the Sachsse factory. Messrs. Harrison are also agents for Chlorophyll, made by Chr. Kuenzlich, Suizbach.

"THE AYRTON LINK" is the title of a quarterly house-organ just launched by Ayrton, Saunders & Co., Ltd., manufacturing chemists, Liverpool. The first number (pp. 44) promises well, the contents being a judicious blend of topical matter (including advertising). A short story by Mr. E. Norman Torry, an account of the rise of Liverpool's commerce, and a cross-word puzzle comprise varied pabulum for differing tastes; and "The Ayrton Link" should find a circle of ready readers. Messrs. Ayrton, Saunders & Co. will be pleased to forward a copy to any pharmacist who desires one.

TABLET MAKING.—Thompson & Capper, Ltd., Manesty Buildings, College Lane, Liverpool, show a large variety of tablets that can be made with Stokes' tablet machines. It is an instructive advertisement.

SKLEEN is the name of a new hand cleaner which has been placed on the market by Southall Bros. & Barclay, Ltd., Birmingham. It differs from anything we have seen so far. It is a thick, milky liquid put up in tins with a screw cap, and contains no soap, grit or alkali. Half a teaspoonful is poured into the palm of the hand and the hands are then rubbed together until nearly dry, no water or towel being required. The action of rubbing converts the Skleen into a solid, and as it rolls off the skin the dirt goes with it. It is an ingenious idea and should sell as a popular line for motorists, housewives and others when once the idea underlying the invention is understood. Skleen retails at 1s. a tin. Messrs. Southall make an offer of free sample tins with orders placed during April.

POUDRE TOKALON.—A new showcard in colours (14 $\frac{1}{2}$ in. x 9 $\frac{1}{4}$ in.) has just been issued in connection with Poudre Tokalon. The

showcard, of which a sketch is given here, can be obtained on application to Tokalon, Ltd., 212 Great Portland Street, London, W.1.

"HYPOLOID" BISMUTH METAL.—Burroughs Wellcome & Co. send out "Hypoloid" bismuth metal in isotonic glucose solution (0.2 gm. in 1 c.c.), to provide specialists and general practitioners with an additional weapon in their campaign against syphilis. It presents metallic bismuth—now

recognised as a definite spirilicide—in the form best suited for intramuscular injection, and removes several objections which have militated against the use of some other bismuth preparations. The isotonic glucose solution allows uniform absorption to take place, and practically eliminates abscess formation if the usual technique for intramuscular injection is observed. The required dose is drawn up direct into the syringe barrel by puncturing the rubber cap with the syringe needle and withdrawing the piston to the requisite mark on the barrel. There are two sizes of the preparation, which, as stated, is sent out in rubber-capped bottles. The commencing dose suggested is 1 c.c. at each injection.

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Senier's cloth balls. S/233
Similic rubber trusses. P/63
Validol S/233
Zopla Plasters. E/233

INFORMATION SUPPLIED

Observations and Reflections

By Xrayser II.

The Meeting of Delegates

of the Pharmaceutical Society, if not altogether "a waste of time" (*C. & D.*, March 21, p. 424), appears to have been pretty much of the nature of a face-saving expedient. The prize-fighter who lets his wife thrash him gave as his reason that "it pleases her and doesn't hurt," and this is probably much what the secretary and Council think of this meeting. It commits them to nothing, and it satisfies the branches. It was, in fact, little more than a gesture, but as such it may be welcomed. It is a step in the right direction, though only a short one. The most important point broached was the continuity of the examinations—on which, however, the opinion of the meeting, if, indeed, it was for continuity, is least likely to have any effect. Other matters discussed are more or less side-issues, but this is the very essence of the new by-laws, and the Council cannot alter its decision without stultifying itself. There is much apparent force, too, in the objection to admitting to the Register as chemists and druggists those who have failed to reach the Pharmaceutical examination standard. The meeting cannot, we were told, be judged by the speeches made at it. By what, then, can we judge it? Not by its decisions, for it came to none. I am informed that it was much against the wish of the meeting that there was no voting, nor any resolutions; and that, I think, is a sufficient judgment upon it.

The "Unanimity"

of the Society, recently proclaimed so complacently by the President, is illustrated by the reports published week by week of the discussions by the branches of the new by-laws. There is scarcely a feature of the laws which is not objected to, and those features upon which the framers of them lay most stress are precisely those which are most strongly and universally condemned. If resolutions and voting had been allowed at the meeting of delegates, it is practically certain that decisions would have been come to which would have made the by-laws unworkable as they stand; and the fear of that is probably the reason why they were forbidden. The fact is that the Society was never so divided as it is now, or perhaps I should say that the secular division between those who take the business view of our calling and those who stand for professionalism has by these by-laws been brought to a more acute stage than ever before, and was never so apparent as at present. Mr. Humphrey foresees a time rapidly nearing when pharmacists will be few and far between, "a specialised branch of what is now a fairly homogeneous vocation"; chemists and druggists will then be just "smart tradesmen," unqualified, and cheap. This is going a step further than I ventured the week before last; but it may be so. In any case, it is certain that, as I then said, these by-laws make for the division rather than the solidarity of the Society.

The Nominated Candidates

for the Council will, I hope, all stand. They are not enough in number to effect such a thorough purge as the Council needs, but if all "exhibited" they might do something for the relief of that determination of blood to the head from which the Society is suffering. They are all good men, and the opportunity their candidature would afford of a protest against the Council's high-handed action with regard to the by-laws would be favourable to them. I see the editor of "The Script," in the current number of that periodical, echoes the challenge of the President to those who opposed the Council's policy. If it is not seriously taken up, the Society will be held to have gone back upon the all but universal protest against the Council's methods, and no future protest of the kind will have any value at all. Mr. Skinner's apology for those members of the Council

who voted in its support, though not in very hearty accord with it, is but a poor one. He says the Council and members of the Society were committed to changes; but neither Council nor members were committed to these particular changes, of which, indeed, members as such had heard nothing till the by-laws were published. He adds that to challenge this policy (of which we had been given no hint) now is somewhat belated, and he says nothing of the indecent haste which made due consideration of the by-laws impossible. Mr. Antliffe elsewhere repeats the discredited excuse that it was the fault of the University authorities, not of the Council. I am far from saying that all the retiring councillors come under precisely the same degree of condemnation. Some of them were merely weak (these apologists may take their choice of the category under which they prefer to be classed), but none of them has any right to complain if his action is resented.

Mr. Maurice Jones

should himself stick to the points he emphasises, but he has not set us the example of doing so. I heartily agree with his dislike of the "patent" trade, and have more than once intimated as much; but the point on which I join issue with him has nothing to do with that, nor was it first raised by me. He carries his dislike of the trade into hostility to the Proprietary Articles Trade Association, which I regard as tending to alleviate rather than aggravate the evil attendant on the traffic in patents. May I ask him to stick to that?

Mr. McCutcheon

misunderstands the purport of my note of March 7 on the comparative status in popular estimation of the chemist and druggist and pharmaceutical chemist of the future. Manifestly it was not my own opinion on this point that I was expressing, and nothing that I said implied any slur upon the Minor qualification or the man who is content with it. Of course, a man who "sets out to become a chemist and druggist and obtains his objective" cannot properly be called "stickit," but he is likely enough to have that term applied to him by outsiders, especially if it becomes common for a person to aim at the higher qualification and attain the lower one only. I am afraid it was a piece of presumption in me, a mere Southron, to use "that grand Scotch word" at all, but I must plead a life-long addiction to Scott's novels and a recent re-reading of "Guy Mannering." As for my "attempted" definition, it was exactly in accordance with Scott's own use of the word, and the definition I have since looked up in the dictionary.

Dr. J. G. Tait

in his address at Edinburgh, evidently tried to hold the balance even when speaking of the mutual relation of doctor and pharmacist, and as a pharmaceutical chemist as well as a doctor he had every advantage in doing so. I do not think he quite succeeded, however. Take that matter of the cough mixture as an instance. It would seem to follow from what he said that a chemist ought not to supply a customer with a cough mixture unless he knows what the cough proceeds from. But if he tries to ascertain the cause of it he is guilty of diagnosis, which he has no right to undertake. What is he to do? There seems nothing for it but to send the man to a doctor—if he will go. Anyhow, the poor chemist is in a cleft stick. Take, again, the matter of mistakes in dosage. Dr. Tait would apparently hold the chemist morally as well as legally responsible for any ill-effects from this cause. Legally, I believe, he is so, but from the purely ethical point of view the doctor is at least as much to blame as he. Incidentally it appears that the chemist has much more need of tact in approaching the doctor than the doctor in dealing with him. This, unfortunately, is true, but it rather discredits Dr. Tait's picture of the chemist as "the guide, philosopher and friend" of the practitioner. As an address to assistants and apprentices (which it was) the thing was an admirable guide to what one ought to aim at, but the experienced pharmacist will be disposed to annotate it somewhat freely.

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Editorial Articles

The New Poisons Schedule

THE revision of the Poisons Schedule published in the "London Gazette" on March 3, and reprinted in the *C. & D.*, March 7, p. 341, will come into force on April 3. It was passed by the Pharmaceutical Society's Council at the August meeting 1924 and commented upon in the *C. & D.*, August 9, 1924, p. 231. It was there pointed out that the changes suggested were material, but no further alteration has been made, and they were gazetted in the original form. The changes are:—

SCHEDULE I

- (a) The word "medicinal" is omitted from the definition of arsenic.
- (b) *Alkaloids*: The word "vegetable" is eliminated.
- (c) *Added*: Cannabis (the dried flowering or fruiting tops of the pistillate plant of cannabis sativa) and the resins prepared therefrom.

(d) *Added* : Digitalin, and all other poisonous constituents of digitalis.

(e) *Added* : Strophanthin, and all other poisonous constituents of strophanthus.

(f) *Tobacco* : Any preparations or admixtures of (other than tobacco prepared for smoking and snuff) containing the poisonous alkaloids of tobacco.

SCHEDULE II

(a) *Added* : Barium, salts of, excepting barium sulphate.

(b) *Added* definition in the omnibus clause : " Except tobacco prepared for smoking and snuff, machine-spread lead plasters."

The omission of " vegetable " from the definition of alkaloids introduces a question which appears difficult to answer : What is an alkaloid ? The dictionary definition is " a vegetable principle possessing in some degree alkaline properties," which, to say the least, is not very helpful. In theory, it is suggested that the object is to include the synthetic alkaloids, which again is not too helpful. The intention is that the substitutes for cocaine will in future come within Part I of the Schedule and be subject to the restrictions imposed by some wholesalers on institution pharmacists in their endeavour to interpret the Home Office ruling resulting from the last amendment of Section 17 of the Pharmacy Act, 1868. The omission of " medicinal " from the arsenic clause goes beyond the definition used in the Arsenic Act, 1851, which states : " Arsenic includes arsenious acid and the arsenites, arsenic acid and the arseniates and all other colourless poisonous preparations of arsenic." The new requirement of Schedule I is " arsenic and its preparations," so that the colour condition, while it still applies in the Arsenic Act, no longer applies in the Poisons and Pharmacy Act, 1908. Under " Agricultural and Horticultural Poisons " the new conditions for licensees in the sale of coloured arsenical preparations, including weed-killers containing it, will be subject to the rules applying to Part I poisons. These articles cannot be sold to anyone by post save under the conditions governing sales of Part I poisons, and in wholesale transactions are subject to the modification introduced by the Dangerous Drugs and Pharmacy (Amendment) Act, 1923, of Section 17 of the Pharmacy Act, 1868. Cannabis is a drug, the medicinal uncertainty of which (see *C. & D.*, March 21, p. 440) has brought it into disfavour. The price is high, and in order to get anything like reasonable results it is necessary to keep to a branded form of tincture. The prescribing will present no difficulties, but for some reason the extract is still almost exclusively used in corn paints. The extract, not being simply the prepared resins, comes within Part II of the Poisons Schedule, and corn paints in which the extract is a constituent must be labelled " poison," and only sold by chemists with the added proviso that after January 1 next the quantity contained therein must also be stated on the label. A simple device to overcome the objection to labelling corn paint " Poison " will be to use oil-soluble chlorophyll as the colouring for salicylic collodion, and if some sedative is required, there can be added to it about 0.5 per cent. of chlorbutol. Digitalin and strophanthin, hitherto not covered by any entry in the Poisons Schedule, are the two most frequently prescribed poisonous glucosides, and the preparations which are on the market will be covered by (d) and (e). Tobacco is something new as a poison. The powder, saturated with kerosene, is an article of commerce, and is sold as a dusting powder against aphid. It is very effective, and

so long as it contains the poisonous alkaloids of tobacco it comes within Part I. The exemption mentioned in the " omnibus clause " for tobacco prepared for smoking and snuff was necessary, as unless this had been repeated smoking tobacco and snuff would have been poisons within Part II. To Section 2 of the Poisons and Pharmacy Act, 1908, dealing with agricultural and horticultural poisons, this inclusion of tobacco will make a material difference. The Poisons and Pharmacy Acts were not infrequently broken by licensees, apparently due to a misunderstanding of the provisions. In future, tobacco containing the alkaloids and sold as an insecticide is subject to the principles stated above under arsenic. Fumigating cones containing nicotine formerly came within Part II; now, the definition : " Any preparations or admixtures containing the poisonous alkaloids of tobacco " brings these preparations within Part I of the Poisons Schedule. So that licensees, who appear to be the most numerous sellers of these lines, must conform in the sales thereof to Part I conditions of the Schedule. In regard to barium salts (except barium sulphate) it will be remembered that under the Rats and Mice (Destruction) Act the Ministry of Agriculture made a great point of the use of barium carbonate with a suitable fat as a rat and mouse poison, owing to its comparative harmlessness to domestic animals. Formulas were circulated freely to agricultural and vermin destruction associations, and a large number of preparations containing it were put on the market. These will now be statutory poisons, and must be so labelled. On and after January 1 next the quantity of the poison contained therein must also be indicated. Barium sulphide depilatories in future also come within Part II as poisons. On this subject it is not necessary to be alarmed, as the popular depilatories now being sold depend mainly upon a special form of calcium sulphide, which is more effective than the barium salt. There are other barium salts sold, and where there are secondary schools youngsters practising chemistry sometimes require soluble salts of barium as reagents; these in future should be labelled " Poison." The only other change in Part II is that affecting tobacco, as previously mentioned, and the definite exclusion of machine-spread lead plasters. The new Schedule comes into force on April 3. A revised schedule will be given, and we shall make the necessary changes in the *C. & D.* Retail Price List, so that in cases of doubt chemists have an easily accessible source of reference.

The Ammonium Sulphate Position

The past few months have witnessed a distinct change in the outlook for this commodity. World production during last year has increased considerably, the main factor in the advance being the rise in the German output. In a previous survey of the position in these columns it was pointed out that Germany, as an exporter of sulphate of ammonium, was likely to prove a dangerous competitor to the British maker. That this assumption was justified is evidenced by the fact that exports from Germany have increased from nearly 120,000 tons in 1923 to upwards of 200,000 tons last year, while total production of nitrogen compounds is estimated to have risen by about 27 per cent. to some 350,000 tons in terms of nitrogen. Of the total quantity manufactured in Great Britain, almost two-thirds is sold abroad, and that the grave situation has been recognised is evident from the character of the changes in the world's markets. At the recent meeting of the British Federation of sulphate of ammonium producers, an organisation controlling 90 per cent. of the output at the present time, the chairman strongly advocated a fusion of all the various associations

of producers, with a view to regulating production and eliminating competition. It has been known for some time, however, that tentative arrangements of this nature were in existence, forced upon producers by economic conditions. The American market, of course, stands apart, since consumption in the United States has increased by such proportions that the home output, which declined in 1924 as compared with the previous year, is insufficient to meet the demand. Certainly a fair quantity is exported to Japan, Cuba and the Philippines, but this is contract business of long standing, and the deficit has had to be relieved by imports of synthetic sulphate of ammonium from Germany to the extent of 13,000 tons in 1924. But it is in Japan mainly where the growing influence of Germany in the export market has been felt, for this advance has been made at the expense of British exporters. Fortunately, this decline has been more than offset by the improvement in the demand for the British product in Spain, which during last year increased its purchases from this country by a considerable margin. On the other hand, the potentialities in the French market consequent upon the generous assistance offered by the State to the agriculturists are being lost to us as a result of the large quantities imported from Germany on reparation account, and sold under the supervision of the French Government. Last year, for instance, out of a total importation of over 120,000 tons, not less than two-thirds came in under this head. It will immediately be realised that, under these conditions, the world price was bound to fall, particularly since the question of organic fusion among sulphate of ammonium producers will not easily be settled, if, indeed, it ever will be. A year ago the world level of prices was considerably higher than it is to-day, and in the British home market also prices have been reduced from the figure of £15 5s. per ton ruling in March last to £14 14s. per ton at present. This price is, of course, for lots of not less than four tons, of neutral quality containing 21.1 per cent. of nitrogen. A certain quantity of inferior quality material testing 20.7 per cent. nitrogen is available at 23s. per ton less, but the output is less than one-fifth of the total. Owing largely to the contribution of some 40,000 tons of synthetic ammonium sulphate produced by Synthetic Ammonia and Nitrates, Ltd., at Billingham, the production in the United Kingdom rose from 400,000 tons in 1923 to about 425,000 tons last year, and since the supply from this source is likely to be augmented shortly, there is need to stimulate consumption in this country. Effort is being made in this direction by field trials established by the propaganda department of the producers' association, and in other ways, but the most effectual method would be by lowering the price schedule. The appreciable increase in domestic consumption during the current season, amounting to 25,000 tons, is mainly due to this reason, but controlled home prices are still well above the world parity, a fact which causes considerable comment in certain quarters. Whether the price schedule for next season will be on a lower basis remains to be seen, but as the price per unit of nitrogen content is cheaper than the quotation for the rival fertiliser (nitrate of sodium), it is not outside the bounds of possibility that a higher level may be proposed. This possibility is supported by the progressive decrease in the consumption of the latter commodity in this country during the post-war years.

The Case is Altered

In its report on the position of the Hamburg export trade in chemicals, the "Industrie- und Handels-Zeitung" of March 20 utters the following doleful complaint: "It

is simply impossible to deny that our chemical industry is confronted by a too powerful competition which has grown up during the war and in the post-war period in the other countries of the world, with the result that an immense circle of former customers are now not only able to supply their own requirements, but also those of others. That is why it is so difficult, in spite of the very greatest efforts, to reconquer the lost ground, particularly in industrial chemicals; worse still, we are losing one position after another. For instance, up to the present we dominated the field in bromides, and Germany was the source of supply for the largest part of the world's requirements. Now it appears as if, *inter alia*, America—undoubtedly the largest consumer—is not only likely to meet its own requirements by an increase in production, but is about to enter into competition with us in the world markets."

Recent Patents

Abstracts of specifications of recently-granted patents for inventions. The complete specification (1s. each including postage) of any British patent can be obtained from the Patent Office, 25 Southampton Buildings, London, W.C.2, on quoting the name of the patentee and the number of the patent.

Photographic Sensitisers.—A sensitising agent for coating surfaces for the purpose of producing photographic reproductions, consisting in a solution containing silver nitrate and hydrazin acid nitrate, followed by development. (E. E. Jelley. 229,566.)

Dipropylketone.—A mixture of calcium butyrate, obtained from wines or the butyric fermentation of sugars, etc., and clay, is heated to a temperature of 300° to 400° C., collecting the crude dipropylketone by condensation. (Société Lefranc & Cie. 216,120.)

Preparing Emulsions.—An apparatus for preparing emulsions or mixtures provided with tricorn-shaped blades with a curved back, so adapted that in operation the sharp forward edges of the blades of one series approach and pass those of the other series. (Allen & Hanburys, Ltd., and P. S. King. 229,576.)

Moulding Borax.—Moulded articles from borax can be prepared by adding a small amount of boric acid, caustic alkalies, alkaline carbonates, or phosphates to the mass without loss of water of crystallisation, and heating the mixture to 60° C. before casting. (Chemische Fabrik Grünau Landshoff & Meyer A.G. 211,117.)

Camphene and Iso-bornyl Mixture.—A mixture of pinene hydrochloride and a previously used solution of zinc acetate, sodium acetate, sodium chloride, and terpenes in acetic acid is heated in a digester, whereupon the reaction mass, consisting of camphene and iso-bornyl acetate, separates out. (La Industrial Resinera Ruth, S.A. 209,423.)

Arsenical Preparations.—A process for the preparation of compounds in which arsenious acid, or *p*-oxy-*m*-amino-phenyl arsenious oxide, is combined with salvansan, or neosalvarsan, in such a way that the latter acts as a protective colloid, while increasing the therapeutic effects of the compound. (Ostro-Products Corporation of America. 227,874.)

Photographic Pigment Paper.—Aluminium and sodium silicate, sodium pentasulphide, barium sulphate, or kaolin, are incorporated in a colloidal emulsion with which the paper is coated. After being sensitised, exposed and developed, a pigment in powdered form is applied to the surface, which exhibits a selective action as regards retention of the pigment. (J. J. C. M. Sury. 216,860.)

Medicinal Solutions.—Solutions of medicinal agents which are insoluble or sparingly soluble in water can be obtained by using as a solvent the product formed by combining a carbamic acid ester with an alkyl or alkylene substituted urea—e.g., a mixture of 40 parts of monoethyl urea and 40 parts of urea with 20 parts of water will dissolve 10 parts of camphor. (Society of Chemical Industry in Basle. 218,982.)

Pharmaceutical Society of Great Britain

Meeting of Delegates

A MEETING of delegates of the Pharmaceutical Society was held at 16 Bloomsbury Square, London, W.C., on March 18. The following report of the proceedings has been supplied officially:—

Copies of the draft regulations containing the resolutions of the branches were circulated. The President welcomed the delegates, and reminded them that under the present Charter and the present Acts of Parliament the Council were placed in the position of being solely responsible for the drafting of regulations. They could not avoid this responsibility by accepting resolutions from the meeting, and it was, therefore, necessary for him to say that he would be unable to allow voting on any points. The Council were anxious to have the views of the various branches put forward, and he hoped that branch delegates would speak in support of the resolutions sent up by their branches. The meeting then proceeded to discuss the resolutions in detail. The various resolutions dealing with fees were first taken. They were roughly divisible into two groups, resolutions suggesting that fees for the Qualifying examination should remain as at present, and resolutions suggesting that where a candidate was absent from an examination for medical reasons he should be allowed to re-enter on payment of a nominal fee. The President pointed out that the amount of the fees was fixed by by-law, and the Council had no power to vary them by regulation. He said that he was prepared to suggest to the Council the inclusion in the regulations of a clause permitting a candidate who gave notice and produced a medical certificate within a reasonable time before an examination to enter for the next subsequent examination without payment of further fees.

On the question of the possible inclusion of Welsh as one of the subjects of the Preliminary examination, he said that he thought that the Council might usefully consider including not only Welsh but any language, other than English, in the list of languages accepted. A number of resolutions had suggested that Latin should be made a compulsory subject for the Preliminary examination. The President pointed out that this would probably mean imposing a great restriction on the number of students who would enter pharmacy. Of the certificates at present presented, probably less than a quarter included Latin. Further, it was proposed to accept final degrees in science as Preliminary examinations, and probably very few who had taken one of these degrees would have studied Latin even for matriculation. On the suggestion of Mr. Grier, the President said that he thought the Council would be prepared to consider sending a letter to the Board of Education suggesting that Latin should be made a compulsory subject of the curriculum of secondary schools.

A delegate from Halifax supported the resolution standing in the name of that branch that the Preliminary examination should be raised to Matriculation standard. This was opposed by a delegate from Stockton. A number of other delegates spoke against the standard being raised at present to Matriculation. A delegate from the Exeter branch put forward the suggestion that the minimum number of hours required for botany and for physics should be raised from 60 to 120.

CONCESSIONS TO STUDENTS

The next resolutions considered dealt with concessions to present students. They were resolutions from the Lancaster, Cheltenham, Stockton, Dundee, Thames Valley, Edinburgh, Bournemouth, Reigate, Redhill and Cambridge branches. The President pointed out that when the regulations for the Chemist and Druggist examination and the syllabus were examined carefully, it would be seen that there was no great difference from the requirements at present in force. The chief difference in the syllabus was the introduction of a practical examination in physics and the extension of the subject of poison law. The real difference was in the regulation

which required that after a certain date a candidate would not be able to commence his curriculum for the Chemist and Druggist examination until he had passed the Preliminary Scientific examination. That meant in practice that after the date, which the Council originally fixed as July 1, 1926, it would be impossible to prepare for the Qualifying examination by means of a nine months' course. The President gave the figures showing the number of students who had entered for the whole examination at the last five sittings of the board (397) and the number who had passed (44), and suggested that it would be in the candidates' own interest for them not to be permitted to enter for the two parts of the examination at the same time. The points brought forward in the resolutions were supported by a number of delegates, and the President concluded by saying that he thought the Council might well consider whether a student should not have a longer period of grace.

The resolutions standing in the names of the South-West Metropolitan and Liverpool Branches suggested that the regulations would permit a candidate commencing his curriculum for the Chemist and Druggist Qualifying examination if he has only to be examined in a referred subject of the Preliminary Scientific examination.

The next group of resolutions dealt with the length of practical training, the discussion being opened by a delegate from the Gloucester Branch, who urged that the minimum period of practical training be three years in all cases. Similar resolutions suggesting that the period of practical training should be the same for the chemist and druggist and for the pharmaceutical chemist had been received from Scarborough, Leicester, Liverpool, Exeter, Lancaster, Torquay, Dundee, Leeds, Cardigan, Wrexham, Portsmouth, Glasgow, Newcastle, Reading, North Metropolitan, Edinburgh, Liverpool, Inverness, and Stockport, and delegates from those branches took part in the discussion. The President explained that the reason why the Council had suggested a period of 2,000 hours practical training for the future pharmaceutical chemist, as against 4,000 hours for the chemist and druggist, was that the pharmaceutical chemist would have an additional year's academic training and that his shop training might therefore reasonably be less. He pointed out that, whatever the final minimum of practical training required by the regulations might be, it would rest with each individual pharmacist as to the period for which he would take an apprentice; even though the regulations provided a minimum period of 2,000 hours for a candidate for the Pharmaceutical Chemist Qualifying examination, it was open to any pharmacist to refuse to take a student as an apprentice unless he was prepared to stay with him for whatever number of years the pharmacist might require.

FROM THE SCOTTISH BRANCHES

A number of similar resolutions received from the Scottish branches of the Society were next discussed. A delegate from the Aberdeen Branch opened the discussion upon the resolution from that branch—"That the courses of study for the Chemist and Druggist qualification and for the Pharmaceutical Chemist qualification could be so arranged that the first academic session after passing the Preliminary Science examination should include all that is necessary for the Chemist and Druggist examination, so that any student passing that examination could proceed in the second academic session to prepare for the Pharmaceutical Chemist examination by covering the ground not included in the first session." Similar views were put forward by a large number of other Scottish delegates. These views were opposed by several teachers in schools of pharmacy who were present as delegates, and who maintained that from an educational point of view it was impossible to conduct a satisfactory two-years' course for the Preliminary Scientific examination if that course was to be broken by an examination at the end of the first year.

A resolution from the Exeter Branch suggested that the Pharmaceutical Chemist examination should be held not less frequently than twice a year. To this the President replied that he was certain that the Council would so arrange the examinations that it would not be neces-

sary for an unsuccessful candidate to wait a year before he could re-enter.

Dealing with resolutions received from Stockport and Burnley Branches suggesting that persons entering for a degree in pharmacy should be required to have served the same period of practical training as is required of persons entering for the Society's examinations, the President explained that the Society could not lay down conditions for the University degree, but that the regulations will require that a bachelor of pharmacy, before he becomes registered, shall have served a period of practical training.

A resolution from Aberdeen dealing with the length of practical training concluded with a suggestion that part of this practical training might be allowed to be taken in the pharmaceutical laboratory of a manufacturing house. This was supported by a delegate from the Aberdeen Branch. A resolution from the Lancaster Branch suggested that a fee should be fixed for the bachelor of pharmacy entering for the Pharmaceutical Chemist, as the regulations do not appear to provide for one. The President explained that the regulations imposed a fee of twelve guineas upon all entrants for the Pharmaceutical Chemist Qualifying examination, whether bachelors of pharmacy or not.

A number of resolutions supported the provision contained in the draft regulations that a candidate entering for the Pharmaceutical Chemist examination, but only reaching the Chemist and Druggist standard, should not be registered as a chemist and druggist until he has completed the period of practical training required of a person entering for the Chemist and Druggist examination. These were resolutions from Leeds, Southend, North Metropolitan and Leicester. A number of delegates spoke in favour of abolishing this concession to a candidate for the Pharmaceutical Chemist examination.

ARTICLES OF AGREEMENT

A number of resolutions in connection with the articles of agreement were discussed. A resolution from Sunderland suggested that the words "if any" should be inserted after the clause dealing with a premium; one from Thames Valley that a clause should be inserted allowing an apprentice a minimum of two weeks' holiday annually; a resolution from Gloucester suggested that the number of apprentices in any shop should be the same as the number of qualified pharmacists. Replying to the resolutions from Sunderland and Thames Valley, the President said that the regulation dealing with the articles of apprenticeship provided that, while the articles must contain the provisions in the draft articles or provisions to the like effect, there was nothing to prevent them including other provisions such as those suggested. Replying to the resolution from the Gloucester Branch, he agreed that the change was a desirable one, but it was only part of a very much larger subject—namely, restricting apprentices to those pharmacies only where adequate training could be given.

A resolution from Birmingham suggested that the Council should place no time limit upon present chemists and druggists to proceed to the Major without a compulsory curriculum and without any limit as to time. The President explained that the by-laws definitely laid down that present chemists and druggists could take the Major examination under existing conditions until 1928. The Council believed that this time was ample, but in any case they had no power to alter the requirement by regulation.

A resolution from the Halifax Branch asked the Council seriously to consider recognising such schools as the Bradford and Huddersfield Technical Schools for Part II. The President pointed out that there was at present room for 1,200 students at the Part II schools in Great Britain, and that there were about 700 students annually preparing for Part II. The approval of further schools would only mean the weakening of existing schools.

Dealing with resolutions from the Reigate and Redhill Branch denouncing the hurry with which the regulations had been put forward, and the resolution from the North-East Lancashire Branch suggesting that in future any proposed alterations in the by-laws or regulations should be first submitted to the branches for their consideration

and then at a meeting of branch delegates which should have power to determine any alterations, the President said that the manner in which by-laws and regulations could be made was laid down by the Charter, and without a new Charter the suggestion of the North-East Lancashire Branch could not be carried out.

In conclusion, the President thanked the delegates for having attended the meeting and for the way in which they had put forward their views. He felt certain that the discussion would be of the greatest use to the Council when they came to consider the regulations in their final form at their meetings on March 19 and at the beginning of April, and he assured the meeting that the various views put forward would receive very careful consideration.

British Empire Exhibition

THE new Wembley—as, for brevity, the British Empire Exhibition (1925) will probably be known—will be "like in difference" to its predecessor. We learn that in one section, the Chemical Section (which will occupy the same position in the Palace of Industry as it did last year), preparations are already far advanced for the marshalling of a collection of exhibits quite equal in interest to those of the 1924 Exhibition. The illustrations that we gave in our Special Issue last June afforded an idea of the extent and variety of the Section, which, it may be remembered, cost over £100,000. Let it be said at once that practically all the space for the coming Exhibition is let: a very little remained earlier in the present week, but the Association of British Chemical Manufacturers, which is again in charge of the arrangements, was daily expecting the completion of outstanding negotiations. The striking frieze, so distinctive a feature of last year's Section, remains, and the changes that are being effected are, it will be found, in the direction of popularising subjects which may or may not easily lend themselves to a wide appeal. The most important of these changes is the setting up of three collective exhibits, devoted respectively to tar, dyes and chemical plant. With the assistance of Mr. Norman Wilkinson, the designer of the handsome stands of Messrs. Atkinson and Messrs. Bush for the 1924 Exhibition, and a well-known authority on stage *décor*, the tar and dyes exhibits will be attractively treated, and these portions of the Section can hardly fail to draw crowds. The science hall, too, is being reorganised with a view of interesting the man in the street; three self-explanatory displays—one each for coal, salt and food—will be on view, and the general public, rather than people with chemical knowledge, will be studied. The opening has provisionally been fixed for May 6.

Business Changes

MR. H. JOHNSTONE, chemist and druggist, has commenced business at Crigglestone.

THE MOND NICKEL CO., LTD., have removed to Victoria Station House, Victoria Street, London, S.W.1.

MR. D. TUNBRIDGE, chemist and druggist, is commencing business at Euston Road, Great Yarmouth.

MR. A. L. PETERS, chemist and druggist, Leeds, has opened the Moortown Pharmacy, 384 Harrogate Road, in the city.

MR. ALFRED THOMAS, F.C.S., Ph.C., 57 Old Town, Clapham, London, S.W.4, will shortly open a branch at 78 Hearnville Road, Balham, S.W.

THE CRINO CO., LTD., manufacturers of Crinofricto, have removed their registered office from 22-3 Laurence Pountney Lane, London, E.C.4, to Shalford, Guildford. Telephone, Shalford 5.

WHEELER & HUISKING, LTD., announce that after more than twenty-five years at their present address, they have been compelled to move to larger offices at 26 and 27 Great Tower Street, London, E.C.3. Their telephone numbers are unchanged: Royal 2777, 2778, and 2652.

British Chemical & Dyestuffs Traders' Association, Ltd.

THE annual general meeting was held at the Cannon Street Hotel, London, E.C., on March 25, when Mr. Victor Blagden presided, and in the course of his address reviewed the principal features of the year. After dealing briefly with the finances of the Association (which were in a satisfactory position) and paying a tribute to the untiring efforts of the secretary (Mr. O. F. C. Bromfield), the chairman said that there is an almost general movement among manufacturers in this country to abolish merchants as a body, not only in the chemical trade, but in others—a movement that is strongly supported by those in high places in the Government. The chairman then dealt at length with the

SAFEGUARDING OF INDUSTRIES ACT, 1921

"The Key Industry section of this Act," he said, continues in force, and the hardships merchants and their customers, the consumers, have had to contend with are still in evidence. During the year a considerable number of consignments of non-dutiable chemicals have been held up, sampled and analysed, and in these instances it is satisfactory to learn that the Association continues to minimise some of the waste of time and money by taking such cases up and obtaining the release of the goods sooner than would have been the case if such actions had not been taken. This important question of delay and hold-up of goods not covered by the Act is not solely due to the Government department concerned. The chief cause is the interpretation of the Act as reflected in the Board of Trade's List of Dutiable Articles. In that list you will find hundreds of articles with "R" against them, signifying that the pure quality only is liable to duty—the commercial grade is outside the Act. The import of the pure quality of these chemicals, if any, is negligible, whereas the import of the commercial qualities in large quantities is an everyday occurrence. What happens? The Customs official, dealing with an import of 10 or 20 tons of a chemical, looks in his list and finds it is scheduled for duty if of "R" or pure grade. The fact that the material is perhaps in bags, and that such a quantity is not likely to be for laboratory work or for medicinal purposes, and that the invoices specify the material as commercial quality, are matters that cannot be accepted by him. Samples have to be taken and sent for test, and after some days—sometimes it runs to weeks—the report comes back "non-dutiable," and the goods are passed free and released. In the meantime the importer has run up costs for demurrage on barges; he may have lost customers and the market may have gone against him. The chairman was informed on good authority that out of nearly 8,000 consignments held up and sampled and analysed under this legislation during one year it is estimated that over 4,000 were returned as non-dutiable. The Association had endeavoured to obtain official figures on this point, but, unfortunately, the departments and the Government, in reply to a question in Parliament, stated the figures were not available. Another point is the question of ascertaining whether a particular grade of chemical will be liable to duty when imported. The Association had, on behalf of members, from time to time made inquiry at the Government department concerned asking what constitutes "R" grade in respect of certain scheduled items, and in no single instance had they been given a satisfactory reply. As an organisation representing British traders, they had no objection to an Act of this kind, provided its powers were strictly confined to the products its name denotes, that is key industries, but they most strongly protest against such legislation being turned into a protective measure and applied to many hundreds of chemicals which have nothing to do with key industries, but which form the basic raw materials in some of their chief exporting industries producing finished goods. Over and above this excessive and erroneous interpretation, it is vague to the utmost degree, teeming with anomalies and absurdities, and leaves the merchant in a state of uncer-

tainty. This Act, in three years, has killed outright the very considerable re-export trade in chemicals, many of which are not made in this country. This business is now being done from Hamburg and other Continental ports.

DYESTUFFS (IMPORT REGULATION) ACT, 1920

This legislation has given dissatisfaction to merchants interested in dyestuffs. The method of its operation leaves much to be desired. The Association has submitted in detail to the department concerned a statement of their case, and endeavoured by way of lengthy correspondence to secure some modification of certain practices of the Licensing Committee in dealing with merchants' applications, i.e., the disclosure to dyestuffs makers in this country of the consumer's name and other particulars mentioned on the merchant's application. It is admitted that this is done, and moreover it is a practice which receives the approval of the Board of Trade. Further, the suggestion that such action should not be taken by the Licensing Committee until the permission of the merchant and his customer had been obtained has been rejected, and they are given to understand that names of consumers mentioned on merchants' applications are liable to be circulated to trading interests outside the Licensing Committee directly they are obtained, as, according to a letter from the Board of Trade, "it is considered to be of the utmost importance in connection with the development of the dyestuffs making industry in this country." The Act provides for a Dyestuffs Development Committee to advise on the efficient and economical development of the dye-making industry in this country. That committee is in existence, and is a separate and distinct body from the Licensing Committee. Why, then, should the Licensing Committee, whose sole business it is to advise the Board of Trade on the desirability or otherwise of granting licences, concern itself with the efficient and economical development of the dye-making industry of this country, even by the peculiar method of furnishing makers with complete particulars of the merchants' business connections?

REPARATION DYESTUFFS

During the year the Association secured the introduction of a special discount to merchants purchasing these colours for re-sale. Up to that time merchants had had to pay exactly the same price as a consumer for purchases, and for that reason they were unable to take any interest in them. During the year lists of arrivals of these colours taken from Germany on reparation account have been circulated to members. These lists have been furnished by the Board of Trade, and this is a further admission that the merchant is a very necessary element in the dyestuffs industry. Importation in bulk quantities of dyestuffs as reparation "in kind" as carried out under the peace treaty ceased at the end of the year, but there are very considerable and valuable stocks which have accumulated yet to be liquidated. The agents appointed by the Government are the chief makers of dyestuffs in this country, a peculiar appointment from a business point of view, and one hardly likely to secure the quick sale and best results from these colours.

GERMAN (REPARATION RECOVERY) ACT, 1920

During the year conditions affecting traders have been a little more satisfactory. The year commenced with the importer being forced to pay the 26 per cent. levy while the German Government were in default, and in consequence the German shipper would not accept anything but full cash payment for his goods. In February, as a result of continued appeals in Parliament, the levy was reduced to 5 per cent., and later it was raised once more to 26 per cent., with the German Government meeting its obligations. Since that time the levy has worked fairly smoothly, but traders are still liable to be called upon to pay this levy should the German Government again be unable to reimburse their exporters. It is hoped that in the near future the burden of being the source from which the British Government collects this reparation levy on Germany will be lifted from the importer's shoulders. Mr. F. T. Reynolds (vice-chairman) also spoke, and after a discussion in private the meeting terminated with votes of thanks.

Trade Report

The prices given in this section are those obtained by importers or manufacturers for bulk quantities or original packages. To these prices various charges have to be added, whereby values are in many instances greatly augmented before wholesale dealers receive the goods into stock, after which much expense may be incurred in garbling, packing, etc. Qualities of chemicals, drugs, essential and fixed oils, and many other commodities vary greatly, and higher prices than those here quoted are charged for selected qualities of natural products even in bulk quantities.

42 Cannon Street, E.C.4, March 26.

THE end of the quarter finds business in much the same condition as it has been throughout the month and there is little of interest to report. Meanwhile, the tendency of values is still downwards, so that buyers cover hand-to-mouth requirements only. Menthol is still sagging, the disturbing feature being forced sales at auction. The demand for Japanese refined camphor has fallen off and the quotation is somewhat nominal. Ergot is firmer and by no means plentiful, with a continued absence of Russian. Balsam tolu and senega are easier. American peppermint oil is inactive, but no cheaper Japanese mint oil is easier, likewise Ceylon and Java citronella and lemongrass oils. Lemon is firm and cassia is in fair demand. In pharmaceutical chemicals market conditions show little change, with no outstanding alterations in value. Aspirin is rather easier; barbitone is cheaper, and bromides maintain last week's firmer conditions. Among industrial chemicals, prices are fairly steady, with business on the small side. Potassium carbonate is firmer, and ammon. chloride is easier. Oxalic acid shows a slight advance. Toluol and pyridine are firmer among the coal-tar products. Among so-called vegetable oils business has been quiet throughout, and prices of a number of items have declined. These include acid oils, cotton, palm kernel, palm, wood and linseed oils.

Higher	Firmer	Easier	Lower
Cassia oil	Benzol	Acid oils	Ammoniacum
Oxalic acid	Ergot	Amidopyrin	Barbitone
Rubber	Potash	Ammon.	Barium
Shellac (to arrive)	carbonate	chloride	chloride
	Pyridine	Aspirin	Bois de rose oil
	Toluol	Balsam tolu	Buchu
		Citronella Oil	Coriander seed
		Cloves	c.i.f.
		Cumin seed	Cotton oil
		Fenugreek seed	Ho ey
		Ginger	Linseed oil
		(African)	Palm oil
		Lemongrass	Pepper (white)
		Oil (c.i.f.)	Rhubarb
		Menthol	Wood oil
		Mint oil	
		Palm kernel oil	
		Salicylic acid	
		Sassafras oil	
		Senega	
	Steadier		
	Thymol		

Cablegrams

BERGEN, March 25.—The total catch of cod for the whole of Norway since the opening of the season amounts to 21,300,000, against 16,900,000 for the corresponding week of last year, and the yield of steam-refined medicinal oil is 40,500 hectolitres against 37,500 hectolitres last year. The market for finest medicinal oil is quiet at about 110s. per barrel, c.i.f. London, for 1925 crop.

NEW YORK, March 19.—*Hydrastis* (golden seal) has advanced to \$4.25 per lb., and balsam Canada to \$10.50 per U.S. gallon. *Copaiba* has advanced to 55c. per lb., and Oregon balsam of fir to \$1.05 per U.S. gallon. Mercury is higher at \$83 per flask. Peppermint oil in tins has declined to \$14.50 per lb., and *Cartagena ipecacuanha* to \$2.20. Buchu is also cheaper at 72½c. per lb.

NEW YORK, March 25.—Business is quiet. Mercury has advanced to \$84.00 per flask—a rise of \$1.00. Short buchu has declined to 70c. per lb., or 2½c. cheaper. Peppermint oil in tins is steady at last week's decline to \$14.50 per lb., and menthol is also steady at \$11.75 per lb.

Exchange Rates on London

The following is a list of Continental and other exchange rates against the pound sterling on London prevailing at 4 p.m. on Wednesday:—

Place	Method of Quoting	Par of Ex-change	March 18	March 25
Amsterdam	Fl. to £	12.107	11.951—11.961	12.00—12.00½
Berlin	M. to £	20.43	20.04—20.07	20.08—20.11
Brussels	Fr. to £	25.22½	94.45—94.50	93.75—93.80
Calcutta	Per rup.	24d.	17 1/2d.—17 3/4d.	17 1/2d.—17 3/4d.
Constantinople	Pst. to £	110	920—935	915—930
Greece	Dr. to £	25.22½	314—317	299—301
Italy	Lire to £	25.22½	117½—117½	117½—117½
Kobe	Yen	24.58d.	20 1/2d.—20 1/2d.	20 1/2d.—20 1/2d.
Lisbon	Escu	53½d.	2 1/2d.—2 1/2d.	2 1/2d.—2 1/2d.
Madrid	Pts. to £	25.22½	33.60—33.62	33.57—33.59
Montreal	\$ to £	4.86½	4.78½—4.78½	4.78½—4.78½
New York	\$ to £	4.86½	4.77½—4.77½	4.78½—4.78½
Oslo	Kr. to £	18.159	31.0—31.05	30.52—30.54
Paris	Fr. to £	25.22½	92.20—92.30	91.20—91.25
Singapore	Per dol.		27 1/2d.—28 1/2d.	27 1/2d.—28 1/2d.
Switzerland	Fr. to £	25.22½	24.78—24.80	24.80—24.82
Vienna	Sh. to £	24.02	33.85—34.00	33.90—34.00
Warsaw	Zloty to £	25.22½	24.80—24.90	24.80—24.90

Crude Drugs, etc.

ANTIMONY.—The market continues very irregular; English regulus on the spot is quoted £70. There is apparently not much Chinese refined to be had on the spot, and holders are not keen sellers at anything under £65.

CINCHONA.—At the Amsterdam auction, on March 25, 611 bales and 99 cases Java pharmaceutical bark offered, weighing 38,738 kilos, and containing the equivalent of 1,094 kilos quinine sulphate. Of this quantity 248 bales and 86 cases, weighing 15,067 kilos, and containing the equivalent of 373 kilos quinine, sold at from 45½c. to 155½c. per half-kilo.

COCOA BUTTER.—Prime English is quoted at 1s. 3d. and C.F.R. at 1s. 4d. per lb., in not less than one-ton lots.

BALSAM TOLU is a trifle easier at 5s 3d. per lb. on the spot.

BELLADONNA ROOT is quoted at 75s. per cwt. for 0.57 and at 60s. for 0.48 per cent.

BISMUTH is in steady demand and current supplies are well absorbed, while the Convention price remains 7s. 6d. per lb. for at least 5-cwt. lots.

CALAMUS ROOT.—Peeled can be had at from 22s. 6d. to 25s. per cwt. on the spot for Russian.

CAMPHOR (REFINED).—Japanese slabs are quiet at nominally 2s. 10d. per lb., with January-March shipment offering at 2s. 8½d. per lb. c.i.f.

CANELLA ALBA is very scarce, with a limited quantity offering at 2s. 3d. per lb. on the spot.

CANTHARIDES.—Russian offer at 3s. 3d. per lb. on the spot.

CELERY SEED is offered at 130s. per cwt. on the spot.

CHAMOMILES.—Belgian are selling at from 70s. to 80s. per cwt. on the spot, according to colour.

CLOVES continue quiet, and slightly easier, with fair Zanzibar offering at from 11½d. to 1s. per lb. on the spot. To arrive, prices are easier, the sales including January-March at from 10½d. to 10½d., closing sellers on Wednesday at 10½d. per lb. c.i.f. The statistics for the week ending March 21 show 200 bales landed and 326 delivered, leaving a stock of 10,973, against 41,168 bales; so far this year the landings have been 1,880, against 28,819 in 1924, and the deliveries 5,911, against 7,028 bales in 1924.

COCHENEAL.—Black grain is scarce and higher at 2s. 6d. per lb. on spot and 2s. 2d. c.i.f.; silvers are 1s. 8d. to 1s. 10d. spot.

COD-LIVER OIL.—Our Bergen correspondent writes on March 21 that the codfishery at Lofoten shows a fair increase last week also. The total output of all the Norwegian codfisheries, compared with that of previous years, is as follows:—

	Catch of cod	Yield of	
		steam-refined cod-liver oil	Livers for crude oils
March 14, 1925 ..	16,300,000	31,678 hectol.	4,700 hectol.
" 15, 1924 ..	12,900,000	29,078 "	4,794 "
" 17, 1923 ..	19,200,000	39,551 "	6,315 "
" 18, 1922 ..	15,100,000	29,756 "	4,257 "
" 12, 1921 ..	13,700,000	24,766 "	4,199 "

Lately a few buyers appeared on the market and a firmer tendency was immediately noted. The improved value of the Norwegian krone contributes also to a rise in the price in pounds sterling. To-day's official quotation for non-freezing, steam-refined cod-liver oil is about 110s. per barrel, c.i.f. London. There is little doing in the London market, buyers holding off expecting a further decline, agents quoting 107s. 6d. to 110s.

ERGOT is firmer and scarce, with a limited quantity of fair sound Spanish or Portuguese offering at 2s. 3d. per lb.

GINGER.—With fairly heavy spot stocks African ginger is obtainable at 65s. per cwt., and February-April shipment is 57s. 6d. c.i.f.; peeled is 80s. spot. Fair washed rough Cochin is 102s. 6d. Japanese is quoted at 82s. 6d. per cwt., c.i.f. London or Hamburg for February-April shipment.

LIQUORICE ROOT.—Good decorticated is worth about 50s. per cwt. on the spot, and common natural is offered at from 9s. per cwt. upwards.

Lycopodium is steady at from 3s. to 3s. 3d. per lb. for treble-sifted in small lots.

MAGNESIUM.—A moderate business is being done by home makers, whose terms for small ingots range from 3s. 9d. to 4s. 3d. per lb., and terms asked for powder vary from about 4s. 9d. to 5s. 9d. per lb. Terms for Continental are at a little under this.

MENTHOL.—This market is overshadowed by the offering of six cases without reserve at auction (q.v.); in the interim 45s. per lb. was quoted privately for Kobayashi-Suzuki. To arrive, March-April shipment is quoted at 43s. 6d. c.i.f., and April-May at 43s. c.i.f.

MERCURY.—Under continued limited arrivals and a steady demand, chiefly for small lots, quotations have hardened further, now ranging upward of £14 5s., while business was actually done thereat early this week up to £14 10s. for small parcels. The appearance of the market is very firm, while it is reported that Italy is practically not offering. The Spanish mines are holding out for £14 per bottle, free on rail at the mines. Out of the recent heavy sales effected by the Spanish mines a fairly large quantity is to be shipped to the United States.

PEPPER.—Fair black Singapore is unchanged at 5s. per lb. on the spot. To arrive, March-May and April-June shipment is 5s. 4d. per lb. c.i.f. London, for f.a.q. White Muntok is easier at 9s. 2d. to 9s. 4d. per lb. on the spot. To arrive, the sales include January-March shipment at 10s. 6d. c.i.f., with sellers at 10d.; March-May has been sold at 9s. 2d. c.i.f.

PIMENTO is unchanged at 4s. 2d. per lb. on the spot.

RUBBER is much dearer and "famine" prices are being secured for all grades of spot and afloat rubber. Since our last, the market has advanced by fully 1s. 4d. per lb., and at the close the tendency was very firm, with every prospect of even higher prices being secured before the end of the week. Orders are coming from all directions, the Continent and New York being keen competitors for the limited quantity of "free" rubber that is offered. Although a break has been expected for some days past there seems little prospect of this happening on account of the continual rapid decline in London stocks. Last week there was again a substantial decline of 1,554 tons in the stocks, and we understand that a further heavy reduction will take place this week. Quotations (Wednesday, 5 p.m.): No. 1 standard crêpe and ribbed smoked sheet, spot and all positions up to June 1s. 8s. 3d., July-September, 1s. 8s. 4d., October-December, 1s. 7s. 4d. per lb.

SEEDS.—There is no alteration in the position of the seed market, and business remains exceedingly quiet, with prices as follows:—ANISE.—Spanish is 6s. per cwt. and Russian 60s. Levant is 50s. CANARY SEED.—Mazagan has sellers at 28s. 6d. per cwt., and good bold Spanish is 34s. 6d. CORIANDER SEED.—Sellers at 15s. 6d. on the spot for Morocco, and to arrive 12s. 9d. c.i.f. is quoted. CUMIN SEED is offered at 55s. for Morocco; Malta is 55s. spot. DILL SEED is 21s. 6d. per cwt. FENUGREEK SEED.—Morocco is 17s., Spanish 15s. HEMP SEED.—Manchurian is 18s. per cwt. LINSEED.—Morocco is 25s. 6d. per cwt. MUSTARD SEED.—English is offered at 34s. to 35s. per cwt. on the spot.

SENEGA is easier, with spot sellers at from 2s. 5d. to 2s. 6d. per lb. for good bright root.

SHELLAC is unchanged on the spot, but higher prices are asked for arrival and delivery. Usual standard TN orange quality is 255s. to 257s. 6d.; fine second orange is 300s., superfine 360s., pure button 320s., AC cakey 260s., GAL 260s. May delivery has been sold at 247s. 6d. to 250s., and sellers of August quote 237s. 6d. To arrive TN for March-April shipment is quoted at 245s. c.i.f.

VANILLA.—At auction on March 18 there was scarcely any demand, and of 261 tins and 5 cases offered only about 60 packages found buyers under the hammer at 26s. 6d. for mouldy firsts Bourbon, and 16s. to 17s. for common mouldy, and afterwards privately as follows:—Bourbon: first good crystallised, 7s. 2d. in., at 39s.; ditto, 6 to 7 in., 38s.; fair firsts, 7s. 2d. to 8 in., 39s.; ditto, 6s. 2d. to 7s. 2d. in., 37s. 6d.; ordinary firsts, 7 to 7s. 2d. in., 37s. 6d. to 38s.; ditto, 7 in., 37s. 6d.; Madagascar, good crystallised firsts, 6s. 2d. to 7 in., 38s.; dry foxy to first mouldy Ceylon, 9s. to 13s. 6d. per lb. [Corrected note.]

Essential Oils

EXCEPT for a brief activity in cassia oil, which is dearer, there have been few articles of interest during the week. The following oils have declined in value: Bois de rose, Ceylon cinnamon-leaf, mint, and sassafras. The high prices quoted for certain brands of lemon oil last week have apparently not been maintained, forward prices being now on a more uniform level.

ANISE (STAR).—"Red Ship" is quiet and unchanged at from 2s. 6d. to 2s. 7d. per lb. spot.

BERGAMOT.—While forward prices of 37 to 39 l.a. continue high at from 16s. to 17s. and upwards, spot is still offered at from 15s. 3d. to 15s. 6d.

BOIS DE ROSE (FEMELLE) is easier at from 17s. to 17s. 3d. per lb. on the spot.

CAJUPUT is quiet and unchanged at from 2s. 10s. 6d. to 2s. 11d. per lb. in bottles.

CASSIA.—Since our last report a further advance took place with sales at 8s. per lb. c.i.f. to arrive for 80 to 85 c.a. While the forward price is still irregular, 7s. 8d. c.i.f. would probably now buy in some directions. Up to 9s. has been quoted on the spot, but 8s. 7s. 2d. to 8s. 9d. is now current.

CEDARWOOD.—American is quoted to arrive at 3s. per lb. c.i.f. in drums and 3s. 1s. 2d. in cases. On the spot cases are quoted at 3s. 4s. 2d.

CITRONELLA.—Ceylon on the spot is unchanged at 2s. 6d. per lb. spot, and easier for shipment at 2s. 4d. c.i.f. Java oil is cheaper at 4s. 5d. per lb. on the spot, and 4s. 1s. 2d. c.i.f. to arrive.

The following are the exports of Ceylon citronella oil from January 1 to January 31, 1925 (together with the destinations), compared with the same period in 1924:—

	1925	1 2 4	1925	1924
To United Kingdom	41,295	20,453	To Victoria...	2,314
" Belgium	—	2,300	" New South Wales ..	5,756
" France ..	3,602	—	" Queens-land ..	—
" Germany ..	5,596	8,531	" United States ..	1,239
" Holland ..	2,290	—	" India ..	71,242 76,955
" Italy ..	—	9,349	Total ..	136,112 118,517
" Spain ..	1,182	804		

CLOVE.—English distilled is unchanged at 7s. to 7s. 3d. per lb. Madagascar distillate, 87 to 90 per cent. eugenol, is quoted on the spot at 6s. 9d. to 7s. per lb., in half-ton lots.

CYPRESS OIL.—French is quoted on the spot at 8s. 3d. per lb.

GERANIUM.—Bourbon is unchanged at from 22s. to 22s. 6d. per lb. Algerian is quoted at from 27s. 6d. to 28s. 6d.

GUAIACWOOD is quoted at from 5s. 3d. to 5s. 6d. per lb. on the spot as to quantity, which is easier.

LAVENDER.—French 38 to 40 per cent. ester has been inquired for recently. There are sellers of moderate lots at 30s. to 32s.

LEMON.—Forward prices have receded from the high positions of last week, and good brands are now offered at 3s. 9d. to 3s. 11d. per lb. c.i.f. Spot is firm at from 3s. 8d. to 4s.

LEMONGRASS.—Cochin on the spot is unchanged at 4s. 8d. per lb., and cheaper at 4s. 5d. c.i.f. to arrive.

MINT.—Japanese dementholised Kobayashi is easier at 16s. per lb.; other brands are offered at slightly less. All positions are quoted 14s. 6d. c.i.f. to arrive.

NUTMEG on the spot is obtainable at 6s. 3d. to 6s. 6d. per lb.

ORANGE.—Sicilian sweet is offered over a fair range of prices at from 9s. 6d. to 10s. 6d. per lb. on the spot or c.i.f. to arrive. Californian is in steady demand at 6s. 6d. to 7s.

PARSLEY OIL.—French is offered on the spot at 22s. 6d. per lb.

PEPPERMINT.—American natural tin oil is quiet and unchanged at from 62s. to 65s. per lb. as to brand.

SASSAFRAS.—Genuine American on the spot is cheaper at 6s. 6d. per lb.

SPEARMINT.—American is quoted at 22s. per lb. for cases.

WORMSEED.—American is unchanged at 15s. 6d. per lb. on the spot.

The following arrivals have taken place from the countries named during the period March 19 to March 24 inclusive:—Almond (Fr.), 12 cs.; anise, star (China), 10 dm.; bergamot (It.), 9 cs.; cedarwood (U.S.), 1 dm.; citronella (Jv.), 8 cs.; dill (Jp.), 1 cs.; eucalyptus (Aust.), 12 dm.; geranium (Fr.), 8 cs.; (Réunion), 1 cs.; lavender (Italy) 6 cs.; lemon (It.), 32 cs.; lime (distilled) (B.W.I.) 7 cs.; mint (Jp.), 125 cs.; oak-moss resin (Fr.), 1 cs.; patchouli (Straits), 20 cs.; petit-grain (Fr.), 8 cs.; pimento (Ger.), 2 cs.; pine (Ger.), 2 cs.; spearmint (U.S.), 3 cs.; spike (Fr.), 2 cs.; undescribed (Fr.), 4 cs.; (Holl.), 1 cs.; (U.S.), 1 dm., 41 cs.; (Ger.), 5 cs.

Aromatic and Synthetic Chemicals, etc.

The following are current spot quotations (duty-paid):—

	per lb.		per lb.
Acetophenone	11/-	Ionone 100%	18/- to 19/-
Amyl salicylate	3/3 to 3/6	Ionone α	35/- to 36/-
Anethol	4/6	Ionone β	35/-
Aubepine	10/6 to 11/6	Iso-eugenol	15/- to 15/6
Benzyl acetate	93% 2/6	Linalol	23/6
" 99% 2/9	"	Linalyl acetate	27/6 to 28/-
" alcohol	2/7 to 2/9	Methyl anthranilate	8/- to 8/6
" benzoate	2/9	" salicylate	1/7 to 1/9
" butyrate	13/6	Musk ambrette	35/- to 36/-
Bromostyrol	9/3 to 10/-	" ketone	40/- to 42/6
Citral	9/6 to 10/-	" xylol	10/- to 12/-
Citronellol	18/6	Phenyl ethyl alcohol	13/6
Coumarin	15/- to 15/6	Rhodinol	40/- to 60/-
Eugenol	10/- to 10/6	Safrol	1/7 to 1/8
Geranyl acetate	15/-	Terpineol	1/7 to 2/-
Heliotropine	5/9 to 6/-	Thymol	16/6 to 17/-
Hydroxycitronellal	30/- to 35/-	Vanillin	24/3 to 24/6

Pharmaceutical Chemicals, etc.

CONDITIONS in the spot market for fine chemicals show little change on the week, and the general tone is steady. Business has been on the quiet side.

ACETANILIDE.—Dealers' prices on spot hold fairly steady at about 1s. 9d. to 1s. 10d. per lb. for quantities of B.P. Business has not been large.

AMIDOPYRIN is quoted on spot at about 13s. 9d. to 14s. per lb., being slightly easier.

ASPIRIN.—Dealers' prices are cheaper this week, but the market is now steady; 5-cwt. lots are quoted at 2s. 9d. per lb., smaller quantities up to 3s. per lb.

BARBITONE is cheaper, with dealers quoting at about 11s. 9d. per lb.; market flat.

BENZALDEHYDE (.03) is steady on a dull market, with quotations from dealers at 3s. to 3s. 3d. per lb.

BENZOIC ACID (B.P.).—Dealers' prices hold steady at from 2s. to 2s. 3d. per lb. on spot, according to quantity.

BENZONAPHTHOL, although rather dull, is steady as quoted on spot at 4s. to 4s. 3d. per lb.

BETANAPHTHOL.—Resublimed is steady as quoted at about 3s. 6d. per lb., spot.

BROMIDES.—The firmer conditions reported last week are maintained. Ammonium, 2s. per lb.; potassium, B.P. crystals and granular, about 1s. 6d. per lb.; sodium, B.P. crystals and granular, about 1s. 7d. to 1s. 8d. per lb.

The conclusion of a price convention to regulate the prices of bromides has had scarcely any influence on the German market. This is due to the fact that large stocks are held by dealers, in conjunction with the practical

absence of demand. While the convention export prices have been fixed at \$63 per 100 kilos for potassium bromide, and \$72 for sodium bromide, dealers are offering parcels in Hamburg at \$54 and \$57.50 respectively.

CALCIUM LACTATE is offering on spot at 1s. 6d. per lb. for large lots and up to 1s. 9d. per lb. for small quantities.

CHLORAL HYDRATE has been fairly active, with dealers' prices steady in the region of 3s. 10d. to 4s. per lb., spot, for duty-paid crystals.

CITRIC ACID keeps steady at ruling rates of 1s. 4 $\frac{1}{2}$ d. to 1s. 4 $\frac{1}{2}$ d. per lb., less 5 per cent. as quoted by dealers for B.P. crystals.

CREOSOTE (B.P.) is steady but quiet, with spot offers at about 2s. 2d. to 2s. 4d. per lb.

CREOSOTE CARBONATE remains dull, with dealers' prices from 6s. 6d. to 7s. 6d. per lb., spot.

GUAIACOL CARBONATE is steady at 7s. 10d. to 8s. per lb., spot, with occasional business on the market.

HEXAMINE.—Conditions are perhaps a little steadier this week, with offers at about 2s. 9d. to 2s. 10d. per lb., according to quantity.

HYDROQUINONE.—The spot market is steady, with dealers quoting close up to 3s. 11d. to 4s. per lb.

LACTIC ACID (B.P.).—Dealers' prices are at about 2s. 7 $\frac{1}{2}$ d. to 2s. 9d. per lb., according to quantity, with some business about. Technical, 50 per cent. by weight, about £43 per ton, net, spot.

METHYL SALICYLATE.—The spot market is fairly steady, with dealers' prices unchanged at 1s. 7d. to 1s. 9d. per lb. in carboys, and up to 2s. 3d. per lb. in bottles.

METHYL SULPHONAL shows no change, with the lowest offer at 20s. per lb.; other quotations up to 21s. 6d. per lb.

PARAFORMALDEHYDE is steady, with dealers quoting 100 per cent. powder at 2s. 2d. to 2s. 3d. per lb. in kegs, and about 2s. 4d. to 2s. 6d. per lb. for small lots.

PARALDEHYDE has been in fair demand, demijohns selling at 1s. 3d. to 1s. 4d. per lb.; in bottles at about 1s. 6d. per lb.

PHENACETIN.—Conditions in this market are still unsteady, and the quoted prices in the region of 4s. 10d. per lb. are being shaded for good business. Offers from America are cheap, while those from the Continent are rather above spot parity.

PHENAZONE.—Quotations seem to be a long way out of the actual selling prices and reflect the unsteady condition of the market: quoted at about 6s. 9d. per lb., but most sales of any size would be slightly less than 6s. 6d. per lb.

PHENOLPHTHALEIN is steadily held on spot, with dealers taking 4s. 9d. to 5s. 3d. per lb., according to quantity.

POTASSIUM PERMANGANATE (B.P.).—The lower prices mentioned last week are now steady and are attracting fair business. Large quantities, 7 $\frac{1}{2}$ d. to 7 $\frac{1}{2}$ d. per lb., in drums; small lots, up to 8d. per lb.

RESORCIN is steady at level rates of 4s. 9d. to 4s. 10d. per lb.; market quiet.

SALICYLIC ACID (B.P.).—There is no further change in the position here. Prices are quoted from 1s. 4 $\frac{1}{2}$ d. to 1s. 5d. per lb., the lower price for large lots.

SALOL is steady on a quiet market, with dealers quoting at 3s. 7d. to 3s. 9d. per lb.

SODIUM BENZOATE (B.P.).—A fair demand has been felt, with dealers accepting 1s. 10d. to 2s. 3d. per lb., according to quantity.

SODIUM SALICYLATE (B.P.).—Prices quoted are steady at unchanged rates, with fair business about; crystals and powder, about 2s. 2d. to 2s. 4d. per lb., according to quantity.

SULPHONAL, although quiet, is steady as quoted at 13s. 6d. to 14s. per lb.; 13s. would be accepted for quantity.

TANNIC ACID.—B.P. leviss is offered by dealers at 2s. 10d. to 2s. 11d. per lb., spot; market slack.

TARTARIC ACID.—Some dealers continue to offer B.P. crystals, spot, at cheap prices in the region of 1s. per lb., less 5 per cent. British makers' prices are rather higher than this.

TERPIN HYDRATE is steady but quiet, with the market quotation at 1s. 8d. to 1s. 9d. per lb.

THYMOL is steadier this week, with most offers in the region of 16s. 6d. per lb. for small lots.

VANILLIN (100 per cent.).—Prices are still mentioned at about 24s. 3d. to 24s. 6d. per lb. in some quarters, while others are asking up to 25s. 3d. per lb

Among the arrivals of chemicals which have paid Key Industry duty are the following:—Birchola, £235; carbon tetrachloride, £548; hydrastin, £181; methyl salicylate, £226; phenacetin, £192; sodium benzoate, £224; undescribed chemicals, £3,227.

The following are makers' prices (per lb., unless otherwise quoted):—Acid camphoric, 21s. to 19s.; iron ammonium citrate: B.P., 2s. 3d. to 1s. 11d.; U.S.P., 2s. 2d. to 2s.; green, 2s. 11d. to 2s. 6d.; mercurials: red oxide, 5s. 4d. to 5s. 2d.; corrosive sublimate, 3s. 9d. to 3s. 7d.; white precipitate, 4s. 8d. to 4s. 6d.; calomel, 4s. to 3s. 10d.; potassium citrate, 2s. 2d. to 1s. 10d.; sodium citrate, B.P.C. 1911, 1s. 11d. to 1s. 7d.; U.S.P. ditto, 2s. 2d. to 1s. 10d.; sodium nitroprusside, 16s.; sodium sulphide, pure recryst., 1s. 2d. to 10d.; ether, 720, 1s. 5d. to 1s. 1d.; ether, 720 purif., ex s.v.m., 2s. 3d. to 1s. 11d.; potassium acetate, 1s. 4d. to 1s. 1d.; terebene, 2s. 3d. to 2s.; acid phosphoric, 1.750, 1s. to 11d.; cadmium sulphate, pure, 4s. 3d. to 4s.

Industrial Chemicals, etc.

London, March 25.

THE industrial chemical spot market keeps fairly steady, with business moderate in dimensions. One or two items show a further decline in values. Cornish arsenic remains flat; carbonate of potash is a little dearer.

ACETIC ACID continues steady, although the demand is not quite up to average: 30 per cent. technical, £40 to £40 10s.; 80 per cent. purc., about £41 10s. to £42 per ton, in barrels; 99 to 100 per cent. glacial, £67 10s. per ton, in glass demijohns, ex wharf, London.

ACETONE is steady and few dealers are quoting below £75 per ton for British Government specification, in drums.

ALUM.—Lump on spot is selling at about £9 5s. per ton, in casks; shipment prices from the Continent a little cheaper than this.

AMMONIA ALKALI.—British makers' price for home consumers is unchanged at £6 15s. per ton, in bags, for 58 per cent. light alkali.

AMMONIA (ANHYDROUS) is steady, with spot small lots of 99.95 per cent. in loaned cylinders selling at about 1s. 4d.

AMMONIUM CHLORIDE (grey galvanising) is a shade cheaper, with dealers quoting spot material at about £23 10s. per ton.

ARSENIC.—Cornish white powdered remains flat, with the quotation nominal at £24 to £25 per ton, f.o.r. mines. Some few inquiries, but no actual business, has been received from America.

BARIUM CHLORIDE 99 to 100 per cent. prime white crystals is down about £10 2s. 6d. to £10 5s. per ton, for spot material. Shipment prices from the Continent are cheaper than this.

BARYTES is steady at level prices of £5 to £5 5s. per ton for British material. Continental prices are rather cheaper than this.

BLEACHING POWDER remains dull so far as dealers are concerned: 35 to 37 per cent. available chlorine is quoted at about £9 10s. per ton.

COPPER SULPHATE.—A fairly active export business is still going on, and there is a steady tone. The larger makers, including the combine, quote £25 to £25 5s. per ton f.o.b., for casks, less 5 per cent.

CREAM OF TARTAR has been in fair demand for arrival, with dealers quoting at about £78 10s. to £79 per ton, less 2d. per cent.

EPSOM SALTS holds steady, and meets with occasional business at about £4 12s. 6d. per ton, in bags, spot, for commercial. Shipment prices from Continent for quantities cheaper.

FORMALDEHYDE, although still quiet in demand, is rather steadier as quoted at about £42 per ton for 40 per cent. by volume.

GLAUBER'S SALT on spot is steady at about £3 10s. per ton, in single bags, for commercial. Shipment prices for quantities from the Continent are under this.

LEAD PRODUCTS.—These markets are quiet, with prices unchanged: lead acetate, spot brown, £43 10s.; white, £44 10s. per ton; litharge, about £44 10s.; red lead, about £44 per ton; white lead, dry, about £44; ground in oil, about £45 per ton, c.i.f. London.

OXALIC ACID shows a further slight advance, and is now very steady, dealers quoting 3d. to 4d. per lb.

POTASH CAUSTIC.—Conditions keep very steady under the Convention price, with spot, 88 to 92 per cent. solid material, in drums, at £30 per ton.

POTASSIUM CARBONATE.—Dealers' prices are dearer on a firm and fairly active market: 90 to 92 per cent., £24 10s.; 96 to 98 per cent., £25 10s. per ton, in casks.

POTASSIUM CHLORATE on spot and to arrive from the Continent is steady in the region of 3d. per lb., and a shadow less for quantities.

POTASSIUM PERMANGANATE (commercial quality) has met with good business, with dealers' prices for quantities in drums close up to 6d. per lb.

POTASSIUM PRUSSIATE.—Yellow on spot is steady at 7d. per lb. in small lots, and a little cheaper to come forward.

SAL AMMONIAC.—Dealers' prices for spot lots keep very steady and business is sustained: dog-tooth crystals, £42; medium, £38; fine white crystals, £24 to £24 5s. per ton.

SALTCAKE for home trade is steady as quoted at £3 15s. to £4 per ton, d/d, in bulk quantities.

SODIUM ACETATE is slow of sale and is unsteady as offered at about £21 10s. to £21 15s. per ton.

SODIUM HYPOSULPHITE shows no change, with the tone steady, but business limited: pea crystals (photographic quality), about £13 10s. per ton, in one-cwt. kegs; commercial quality in casks, about £9 per ton.

SODIUM NITRATE shows no change, with the market still quiet for this time of the year: London, 96 per cent., about £13 5s.; refined, £13 7s. 6d. per ton, f.o.r. docks. Liverpool prices more attractive.

SODIUM NITRITE has been a little brighter, with the London price steady at about £23 15s. per ton, for 100 per cent. basis material. Manchester prices are cheaper than this.

SODIUM SULPHIDE is unchanged, with hardly any inquiry on the market: 60 to 52 per cent. solid, £13 7s. 6d.; broken, about £14 per ton, in drums.

SULPHUR is in fair demand, and the tone of the market is quite steady. Sicilian or American crude stands at £5 7s. 6d. to £5 10s., delivered Manchester. Quotations for refined are £9 12s. 6d. to £9 15s. for Sicilian flowers, and £7 15s. per ton for roll, delivered London warehouse.

ZINC PRODUCTS.—The feeling has been adversely affected by the recent considerable set-back in the price of zinc, which touched a point nearly £4 per ton under the extreme highest point reached at the opening of the year. Concessions for zinc oxide made recently to figures ranging from about £37 to £46 per ton, according to quality, tended to improve the demand somewhat. Zinc ashes stand at £14 to £14 10s. for 70 per cent.

COAL TAR PRODUCTS, ETC.—Pitch remains flat at low prices on quotation. Toluol is firmer; other items are unchanged, with business generally quiet. ANILINE OIL has been in some demand, with makers and importers quoting level; makers at 7d. to 7d. per lb., ex works. BETANAPHTHOL is steady with prices at 1s. to 1s. 1d. per gallon. TOLUL is firmer, with 90's fully 1s. 6d. per gallon; pure is quoted at about 1s. 8d. per gallon. XYLOL remains dull, with prices unchanged: pure, 3s. 3d.; commercial, 2s. 3d. per gallon. CREOSOTE OIL is steady, but in no great demand: ex works, 6d. to 7d. f.o.b. 7d. to 7d. per gallon, in bulk quantities.

CARBOLIC ACID crystals show no change on the week, with quotations at 5d. to 5d. per lb., in bulk packing, f.o.b. CRESYLIC ACID remains dull and quotations at about 1s. 9d. to 1s. 10d. per gallon for 97 to 99 per cent. material are rather unsteady. NAPHTHALENE, although quiet in demand, remains steady, at about £15 to £16 per ton, for flakes, according to district. Pure METHYL ALCOHOL is quoted on a dull market by dealers at about £50 per ton, to arrive.

HEXAMETHYLENE keeps steady as quoted at about 2s. 10d. to 3s. per gallon; business small. PYRIDINE is firmer this week, with dealers quoting at 19s. per gallon: market is now strong.

PITCH.—The market quotation is still at 41s. per ton, f.o.b. East Coast, but there is little interest on the part of buyers.

Fixed Oils, etc.

BUSINESS has been quiet and small throughout this market, and most changes in values are in buyer's favour. ACID OILS are still dull and rather easier again: coconut and palm kernel, 42s.; groundnut, 38s. 6d.; soya, 33s. 6d., all spot.

CASTOR.—Prices are more or less nominal: pharmaceutical, 69s.; first pressings, 65s.; second pressings, 63s., all spot, in barrels in not less than one-ton lots.

COCONUT.—Market quiet throughout: deodorised, spot, 51s.; Ceylon, 45s. c.i.f., Cochin, 53s. c.i.f.

COTTON.—A further fall in values, with the market still flat: deodorised, 52s.; common edible, 50s., soapmaking, 48s.; crude, 42s. 6d., all spot.

GROUNDNUT.—Prices unchanged and market still dull: deodorised, spot, 55s.; crude Oriental, 52s. c.i.f.

PALM KERNEL.—Easier and still slack: deodorised, 47s. 6d.; crude, 42s., all spot.

PALM.—All grades are much cheaper and the market has

been dull all the week; Lagos, 41s. 6d.; softs, 40s.; mediums, 40s. 6d.; hards, 41s. 6d.; bleached, 43s. 6d., all spot. RAPE is still dull and values unchanged: refined, 55s.; crude, 52s., all spot. SOYA is dull and unsteady: deodorised, 49s.; crude, 41s. 6d., all spot. LINSEFD (raw, naked).—Irregular and closing at lower prices for all positions: on spot, 47s.; March-April, 45s. 9d.; May-August, 45s. 9d.; September-December, 44s. 10½d.; Hull, on spot, 45s. 9d.; March-April, 45s. 9d.; May-August, 46s. 6d.; September-December, 44s. 9d. TURPENTINE (American).—Market far from steady and values about level on the week: on spot, 63s.; April 63s. 3d. Last week's London deliveries were 1,702 barrels, making 22,457 barrels so far this year, compared with 21,310 barrels same date last year. The warehouse stocks were reduced to 19,635 barrels, which, including quantities afloat of 3,900 tons, made the visible supply 23,535 barrels, against 21,174 barrels a year previous. The American stocks were reduced further, being estimated at roughly 35,000 barrels. WOOD—*Hankow in barrels is cheaper on a quiet market at 64s. spot, and April-May shipment, 64s. c.i.f.*

LUBRICATING, MINERAL AND BURNING OILS.—Benzol is showing up firmer; other items are steady, with business moderate in most directions; lubricating oils are none too steady. BENZOL.—Conditions are firmer here, with crude 65's quoted up to 1s. 3d. per gallon, ex works, in tank wagons; standard motor, delivered London area, is firm at 1s. 9½d. per gallon; pure, ex works, in tank wagons, is at 1s. 10½d. to 1s. 11d. per gallon. FUEL OIL is steady, but rather quiet: 950 gravity, £4 2s. 6d.; 890 gravity, £4 17s. 6d. per ton, ex tank. PARAFFIN WAX and SCALE.—Markets continue firm: wax, 3½d. to 5½d. per lb., according to melting point, in bags; scale, 27s. and upwards per cwt., c.i.f. United Kingdom port. PARAFFIN OILS.—American oils firm: standard white, 1s.; water white, 1s. 1d. per gallon, barrels free; Russian prime white kerosene, 6½d. to 7d., ex tank; 7½d. buyers' barrels filled free, and 10½d. per gallon, barrels free, ex wharf, London. WHITE OILS.—Market rather unsteady as quoted: business slow. Special No. 1. £33: No. 1, £30, No. 3 half-white, £26; No 4 half-white, £18 per ton, barrels and drums free, ex wharf, London. SOLVENT NAPHTHES are steady and meeting with some business: 90 to 160, 1s. 4d. to 1s. 5d. per gallon; heavy, 90 to 190, 1s. 1d. per gallon. PETROLEUM JELLIES.—Business lacking here; market none too steady: white to snow white £56 to £60; amber and yellow, £24 to £26 10s.; red vet, £21; dark stiff green, £18 per ton, drums and barrels free, ex wharf, London. LUBRICATING OILS.—Business quiet; spot market fairly steady, but rather inclined to weaken a little: pales, £12 to £24; reds, £14 to £26; dark cylinders, £15 10s. to £36 per ton, less 2½ per cent., ex wharf, London. SOLUBLE OIL, £20 to £29 per ton, net. No. 1 RUSSIAN OIL is very steady at £18 15s. per ton, less 2½ per cent., ex wharf, London.

London Drug Auctions

Commercial Sale Rooms,

Mincing Lane, E.C.3.

March 26.

At the public sale to-day moderate supplies only were offered by eleven brokers, and, as had been anticipated, the demand proved small, but decidedly better than on the previous occasion two months ago. At the same time it must be said that prices favoured the buyer, particularly in the case of rhubarb, of which forced sales bulked largely. No doubt the high Bank rate, the heavy Port of London charges, and the lengthy interval between the public sales, compel importers to realise quickly. Buchu was in larger demand at easier prices, and of cardamons only a few packages were disposed of at steady rates. Dragon's blood is still plentiful, but failed to sell. Gamboge is steady, and for honey cheaper prices were paid, particularly for San Domingo, the large petroleum drums in which it is packed not commanding themselves to buyers. Matto Grosso ipecacuanha was firm and in fair demand. Menthol was forced off at decidedly lower prices, which cannot be repeatedly privately. Myrrh is neglected. Senna was unaltered, with retail sales only at previous prices. Grey Jamaica sarsaparilla was firm, and East African beeswax sold at very full rates, though not quite up to private expectations. The following table shows the quantity of goods offered and sold:—

	Offered	Sold		Offered	Sold
Aconite root	14	0	Honey—		
Agar agar	17	0	Californian	145	0
Agaric, white (bxs.)	2	0	Cuban	71	0
Albumen	3	0	Guatemala	60	0
Aloes—			Hawaiian	200	0
Cape	23	0	Hayti	26	0
Socotrine (kgs.)	2	0	Jamaica	415	13
Zanzibar	2	0	San Domingo	94	61
Ambergris (oz.)	40	0	West Ind.	10	10
Ammoniacum (cs.)	83	0	Ipecacuanha—		
Anise (Levant)	28	0	Matto Grosso	52	10
Anise, star	40	0	Minas	5	0
Annatto seed	10	0	Irish moss	10	0
Areca	20	0	Jaborandi leaves	10	0
Asafoetida	13	0	Jalap	9	2
Balsam Peru	5	0	Jambul seed	5	0
Balsam tolu	15	0	Juniper berr.	21	0
Bark, So. Amer.	13	13	Kamala	83	0
Belladonna powder			Kino (Afr.)	15	0
	(lb.) 728	0	Kola	106	0
Benzoin—			Lavender flow.	15	0
Palembang	5	5	Liquorice juice	4	0
Siam	31	0	Liquorice root	54	5
Sumatra	194	21	Lobelia herb	2	2
Buchu	69	20	Mastich	5	0
Cabaloya seed	1	0	Menthol	6	6
Cade oil	3	0	Mint oil (Jp.)	12	10
Calamus root	30	0	Myrrh	122	1*
Calendula	10	0	Olibanum	158	0
Calumba	310	0	Orange peel	19	2
Camphor oil	5	0	Origanum herb	36	0
Cannab. Ind.—			Paimarosa oil	2	0
African	31	0	Patchouli leaves	24	0
Bombay	1	0	Pennyroyal herb	11	0
Cantharides (Ch.)	5	0	Rhapontica (Ch.)	6	0
Cardamoms	299	23	Rhubarb (Ch.)	121	56
Cascara sagrada	300	6	Rose oil (pots)	2	0
Cassia fistula	33	0	Sarsaparilla—		
Castor seed	5	0	Grey Jamaica	33	6
Chamomiles	15	0	Guatemala	6	6
Cinchona	44	1	Guayaquil	1	1
Colocynth—			Mexican	11	0
Apple	20	0	Native Jam.	1	1
Copia	2	0	So. Amer.	2	0
Crotton seed	15	0	Senna and pods—		
Cubeb	48	0	Alex.	250	0
Cumin seed	19	0	Tinnevelly	429	38
Cuttlefish bone	355	2	Stramonium seed	5	0
Dragon's blood	126	0	Strophanthus	29	0
Elemi (cs.)	27	0	Tamarinds (E.I.)	52	0
Ergot	10	0	Tonka beans	11	0
Eucalyptus oil	30	0	Tragacanth	17	17
Euonymus bark	3	0	Turneric	116	0
Euphorbia pil.	28	0	Turtle, dried (cs.)	1	1
Fennel seed	34	19	Uva ursi	8	0
Gambier cubes	4	0	Wax (bees')—		
Gamboe	14	2	East African	227	219
Guaiacum	29	21	East Indian	1	1
Henbane	51	0	West African	11	0
Henna	183	0	Wax, berry	22	0
			Wax, Carnauba	33	0

* Sold Privately.

AGAR AGAR was obtainable at 5s. per lb. for new crop No. 1 Kobe, a bid of 4s. 9d. being refused for a bale.

AGARIO.—Two boxes of white lumps (a scarce and seldom seen drug on this market) were bought in at 8s. 6d. per lb.

ALOES was slow of sale: 23 cases Cape offered, good firsts of which were held at 42s. 6d. per cwt. Two cases Zanzibar, in skins, were retired at £8 10s. for good hard, in papery skins, and for 2 kegs of hard Socotrine, in kegs, of good flavour, a bid of £6 2s. 6d. was refused.

BALSAM TOLU.—Fifteen cases were offered, fair, bright hard of which was obtainable at 5s. per lb., and ordinary drossy at 4s. 3d. per lb.

BENZOIN met with a small sale: 9 cases Sumatra thirds sold at £6 5s. per cwt. Four cases good almond Sumatra seconds sold at £8 per cwt. and 4 cases fair seconds at £7 5s., subject to sellers' approval. Five cases Palembang realised 62s. 6d. for fair seconds part barky sides. For a single case of Siam a bid of £25 per cwt. is to be submitted for good small to bold loose almonds; grains in shivery block were held at £18 to £22; for small to extra bold free selected almonds £29 was wanted.

BUCHU was in more demand at easier prices. Fair green round slightly stalky sold at 2s. 8d. per lb., and common stalky at 2s. 5d., slightly yellowish and stalky ovals at 2s. 1d. to 2s. 3d., and long ovals at 2s. 2d. All the foregoing were subject to sellers' approval. Slightly stalky greenish longs were bought in at 2s. 5d. New crop is selling privately at 3s. for good green round.

CADE OIL.—Three barrels "as imported" in 1920 offered without reserve, but no bid was made.

CALUMBA.—A lot of 210 bags offered, part comprising small to bold yellowish sorts, which were bought in at 1s. per cwt.

CANNABIS INDICA.—A single case of fair Bombay tops was retired at 26s. per lb. African siftings were bought in at 2s. 8d. to 3s. per lb.

CASCARA SAGRADA.—The offerings included five tons (162 bags) imported in September 1924, for which 65s. per cwt. was wanted. Eighty-two bags fair 1922 peel were held at 140s., at which the broker intimated private sales.

CASSIA FISTULA.—For a lot of 33 baskets of small, part wormy pod, a bid of 27s. 6d. per cwt. is to be submitted; the private price is 30s.

CARDAMONS met with a slow sale, only a few packages being disposed of. Mangalore character from Calicut, good bold round palish, were bought in at 8s. 3d.; round and splits (5 cases) sold at 6s. 9d. to 6s. 5d.; Mangalore seed (1 bag), 8s.; Ceylon-Mysore good bold pale long sold at 7s. 3d., medium pale 6s. 4d., specky splits and pickings 5s. 3d. to 5s. 6d.; Tellicherry character medium palish were bought in at 6s. 9d. Ceylon-Malabar fair medium brown were bought in at 6s. 4d., and small brown at 6s. 1d. to 6s. 2d.

CHAMOMILES.—A bid of 50s. per cwt. is to be submitted for 13 bales ordinary dull Belgian.

CINCHONA.—Three cases good silvery Java druggists' quill (2.97 per cent. quinine, 8.59 per cent. total alkaloids) were limited at 2s. 9d. per lb.; 16 bales flat Cartagena offered and one sold at 9d. for slight country damaged; sound was held at 11d.

CUTTLEFISH BONE.—Two cases very damp, common, small, dull sorts from Bahrain, sold at 1d. to 2d. per lb., subject to sellers' approval. For fair to good pale E.I. sorts 8½d. to 10d. per lb. was asked; sales privately have been made at 8d.

ELEMI.—Good pale paste was bought in at 50s. per cwt., and thirds at 45s.

ENONYMUS BARK.—Three bales were held at 4s. 9d. per lb.

ERGOT.—Ten bags fair, sound Russian character were offered and bought in at 2s. 4½d. per lb.

FENNEL SEED.—A lot of 19 bags fair East Indian sold at 28s. per cwt., subject to approval.

GAMBIER.—Four bags cubes offered and bought in at £6 per cwt.

GAMBOGE.—Two cases fair Siam pipe, slightly blocky, sold at £20 per cwt.

GUAIACUM.—Of 29 packages offered 3 cases were catalogued without reserve, and these sold at 3d. per lb. for common drossy, and 12 cases under usual conditions sold at 8d. per lb. for ordinary lump, part drossy. Later in the sale, 6 cases sold at 2s. 1d. to 2s. 6d. per lb. for fair glassy lump.

HONEY met with a small demand at cheaper prices, partly owing to the fact that a quantity of San Domingo, packed in drums (a package which is not in favour) had to be forced off. The major portion of the Jamaica was of poor quality, the value of which was difficult to gauge. The following prices were paid.—Jamaica. Of 415 barrels offered only 13 sold, comprising white set at 50s. and pale amber liquid at 55s. to 57s. Of San Domingo, 94 packages offered and 61 sold, comprising white set at 51s. to 57s., pale set. 45s. to 52s.; cream set. 45s. to 50s.; biscuit set. 47s. to 49s., and dark to darkish set. 4½s. to 47s. Ten casks West Indian sold at 47s. for pale set and 40s. to 42s. 6d. for set and setting amber. 200 cases Hawaiian were bought in at 60s. for set pale and 100 cases Californian at 70s.

IPPECACUANHA was firm, ten bales of fair bright Maito Grosso selling at 7s. 11d. per lb., and dull lean at 7s. 10d.; good stout was held at 8s., and selected bales of fine quality at 8s. 3d. per lb. Five bales fair Minas offered, and held at 7s. 9d., 8s. c.i.f. is now asked to come forward.

JALAP.—Nine bags offered, of which two had been sold privately; the drug tested 18.9 per cent. and 18.4 per cent. resin, the price being 2s. per lb.

JUNIPER BERRIES.—A lot of 21 bags fair was limited at 22s. 6d. per cwt.

KOLA.—A lot of 60 bags West African were bought in at 4d. per lb. for good bright quarters, and 26 bags small to medium fair Ceylon were held at 3d. per lb.

LIQUORICE ROOT.—Five bales inferior Smyrna natural sold without reserve at 8s. 6d. per cwt.

LOBELIA HERB.—Two bales loose of third-class sea-damaged sold without reserve at 1s. 3d. per lb; sound value, 2s.

MASTICH.—Five cases fair palish tears were bought in at 2s. 8d. per lb.

MENTHOL.—At auction 6 cases were offered and sold cheaply without reserve, comprising three cases Tase at 40s. to 41s. per lb., one case Kobayashi at 42s., and two cases Suzuki at 41s. 6d. to 42s.; the foregoing prices were less 2½ per cent. discount. After the sale the private price was 44s. 6d. per lb.

MINT OIL.—In auction ten cases Japanese dementholised oil, Suzuki brand, passed by London analysis, were sold without reserve at 13s. 6d. to 14s. per lb., less 2½ per cent. discount.

ORANGE PEEL.—Two cases very dark overdried Tripoli strip sold at 5d. per lb. For good bright Tripoli strip in case lots 10d. is asked privately.

RHAPONTICA.—Six bags fair average quality, small to medium Chinese, were bought in at 10d. per lb.

RHUBARB.—The unusually large quantity of 47 cases of Shensi and Canton offered without reserve, and sold at lower prices; nothing of good quality offered. Two lots totalling 23 cases Shensi sold without reserve, comprising medium flat, with three-quarters fair pinky fracture, at 2s. 3d.; bold round, mostly greyish fracture, 2s. 6d.; medium round, three-quarters greyish fracture, 2s. 3d. to 2s. 6d.; small round ditto, 2s. 4d. Medium flat, two thirds greyish pinky fracture, 2s. 10d., and medium round 2s. 10d. Shensi pickings (five cases) at 1s. 2d. to 1s. 4d. Of Canton, 18 cases sold without reserve, comprising medium round ordinary pinky fracture, 1s. 8d.; small round part stalky, two-thirds greyish pinky, and one-third grey and dark, 1s. 6d. Bold flat three-quarters fair pinky fracture, 1s. 8d.; medium round ditto, 1s. 8d.; medium round, three-quarters ordinary pinky, one-quarter grey fracture, 1s. 3d.; small round stalky, three-quarter grey fracture, 1s. 2d. Five cases small to bold flat, High-dried, with three-quarters common fracture, sold at 1s. 6d. to 1s. 7d. without reserve. Two cases rough, round, High-dried, of three-quarters fair pinky fracture, were limited at 1s. 3d. The following were sold under usual conditions:—Seven cases medium to bold common round rough High-dried, half pinky, half grey and dark fracture, at 8d. to 8½d. per lb. Five cases medium to bold Canton, with three-quarters fair fracture at 1s. 8d.

SARSAFARILLA.—slow of sale. Of grey Jamaica 33 bales offered and six bales fair sold at 1s. 6d. per lb., being firm; six bales Guatemala sold at 1s. 3d., and a bale of coarse Guayaquil went at 1s. A single bale of native Jamaica, all that offered, sold at 1s. 3d. for common dull yellowish; Mexican was bought in at 1s. No Lima-Jamaica offered, and privately nothing appears to be available. Privately the stock of red native is in one holder's hands and firmly held.

SENNA met with a slow sale, including Tinnevelly, at 4d. per lb., for fair greenish leaf; 3d. to 3½d., for ordinary yellowish to middling; fair bold greenish was held at 5d. to 5½d., and 8 bales Timnevelly pods sold 5½d. to 6d. per lb. Fair greenish three-quarter Alexandrian leaf was limited at 1s., and pods at from 8½d. to 1s. 7d. as to quality.

TAMARINDS.—A lot of 36 bales of fair black Calcutta was bought in at 18s. per cwt., and for 16 casks Calcutta 20s. was wanted.

TRAGACANTH.—Thirteen cases brown hog sold at 87s. 6d. per cwt., subject to sellers' approval.

TURTLE, DRIED.—A single case met with keen competition, realising 6s. 10d. per lb.

WAX (BEE'S).—A new lot of 223 packages East African from Beira offered, and 215 sold at the firm price of £8 10s. for fair brown and reddish block, and at £8 12s. 6d. for rolls; broken ball and pieces, part slightly drossy, sold at £8 to £8 10s. per cwt. Four bags East African of ordinary mixed colours sold at £5 10s., and a case of unbleached Bombay sold at £7 per cwt.

Turkish Olive Oil.

The production of olive oil in Turkey last year was estimated at 30 million kilos. The quality is said to be much better than that of the preceding year. Considerable stocks of olive oils are now in holders' hands at Adremid, Aivalik, Burhanieh, Aidine, Smyrna and Ghemlik, which are the centres of production. London, Marseilles and Roumania are the chief markets for Turkish olives. Letters received from Egypt show that that country will also be a buyer of a considerable quantity of Turkish olive oil during the present year. It is estimated that the exportation of the oil to that country will amount to about £T.2,500,000. There are about forty modern oil mills, with a daily output of from 15,000 to 80,000 kilos oil in the region of Edremid-Smyrna. The residue from the first pressing is exported to Italy and Greece, where it is pressed for a second time and used as a lamp oil or for making soap. The year's harvest reaches the market at the beginning of January. This year the weekly arrivals are expected to average 3,000 barrels.



Letters for this section should be written on one side of the paper only. Correspondents may adopt an assumed name for purposes of publication, but must in all cases furnish their real name and address to the Editor.

By-Laws Regulations

SIR.—We should like to place on record the dissatisfaction so freely expressed at the method adopted at the meeting of delegates last Wednesday for discussing the regulations. It is a fact that very many members of the Society refrained from attending the statutory meeting convened for the purpose of adopting the by-laws (which had not been thoroughly discussed by the branches), owing to the letter published stating that the branches would be consulted upon the regulations when formulated. The method in which this promise was carried out left much food for thought with the delegates who attended, and we are not, by any means, alone in expressing dissatisfaction. It was simply waste of time for the delegates, and of money for the Society. A series of questions addressed to each branch would have been at least as effectual. Apart from the promise of consulting the branches, there was no obligation to ask the assistance of the branches in discussing the regulations; but, having made this promise as an inducement for members to pass the by-laws, it was cajoling the branches by the way the meeting was carried out. The only good evolving out of these two meetings will be a demand for a thorough overhauling of the method by which by-laws are presented to the members for acceptance. We commend this to the candidates seeking election in May.—Yours, etc.,

C. GOODE,

Thames Valley Branch.

ALFRED HIGGS.

SIR.—A candidate for the Chemist and Druggist Qualifying examination must sign a declaration that he has been trained under the direct supervision of a pharmacist in the dispensing and compounding of medicines for 4,000 hours spread over not less than two years in a shop, etc. This means that a candidate must have had 4,000 hours' actual dispensing experience, not 4,000 hours spent in a chemist's shop doing odd jobs. . . . It follows that an apprentice must spend at least three years in a chemist's shop. It would be impossible to accomplish it in two years unless the apprentice went straight to the dispensing counter and dispensed for forty hours a week, for fifty weeks a year, for two years, which would be out of the question.—Yours faithfully,

JAMES W. HARPER.

Harrogate.

SIR.—At the recent delegates' meeting I brought up a matter which is of very great importance to the Pharmaceutical Society; but the liberties of that meeting were so circumscribed that no expression of opinion could be obtained by vote, and I would therefore crave the courtesy of your columns for the purpose of bringing the matter to the notice of my fellow-pharmacists. It is of the utmost importance that any alterations in the constitution of the Society shall be beyond dispute and on unquestionable legal grounds, so that they may not be open to challenge at a later date. But can it be argued that this is the case with the regulations which the Council are putting through in such haste? The Society, and the Society alone, has the decisive voice in the matter of by-laws, and the Charter states that the "times, place and manner of examining candidates" shall be regulated by by-laws. Surely it is abundantly plain that the matters covered by the so-called regulations are matters which should be dealt with by by-laws duly submitted to the Society. These regulations are part and parcel of the by-laws, and should not properly be divorced from them. But, again, the Pharmacy Act, 1852, lays down that "all altered, amended or additional by-laws" must be submitted to the Society; and the by-laws themselves (see VI, Subsect. 3) state:—

"All resolutions carried at the meetings of the Council,

except such as relate to the making, altering, or abrogating of by-laws, shall be acted upon without confirmation." Now, Sir, these regulations of the Council are essentially alterations, amendments and additions to the by-laws controlling the "times, place and manner of examining candidates"; and I submit that they do most certainly come under the exception referred to above. In the by-laws as recently altered [see VII, 11 (c)] it is distinctly stated that candidates shall be admitted to the register as pharmaceutical chemists after examination in five subjects; but under the regulations this is reduced in the case of certain candidates (those holding the London degree) to one subject. Surely this is an alteration of the by-law, and it seems to me that the Society might well take legal opinion on the matter; it has little authority over its Council at present, and, as matters are going, that little is getting beautifully less.

Yours truly,

S. LAMPLough SCOTT, F.C.S.

Bournemouth.

SIR.—The autocratic system of conducting our Society, very pronounced during the last twelve months, has reached its climax at the delegates' conference held on March 18, at 16 Bloomsbury Square. The ruling that no resolution would be accepted is an innovation in pharmaceutical conferences and at the same time a snare for the Society's branches, defying their right to advise the Council in matters of vital importance to our profession. The President's action has no ground for defence. It was a challenge thrown to the branches and, through them, to all the members of the Society. Are we going to accept this challenge? Are we going to put our foot down and demand a democratic policy? It is no use calling a general meeting and demanding the resignation of the whole of the Council; but I understand that an unusual number of candidates for the next Council election has been nominated, and that is the time for every member to see that not a single one of the present retiring members is re-elected.—Truly yours.

J. COFFMAN-NICORESTI.

113 Leadenhall Street, E.C.1.

SIR.—If the meeting held on March 18 to consider the regulations brought satisfaction to the hearts and minds of the President and those associated with him, I can assure him that in the body of the hall it aroused a feeling of resentment which was general. What a solemn farce! What an unpardonable waste of time, energy and money! One thing emerges as certain—if the present Charter makes it impossible for the rank and file of pharmacy to raise an effective voice in the management of its own affairs, then the seeking of new powers more in accord with present-day thought becomes a matter far more urgent than the stiffening of our educational system. Of what value is our "democratic" organisation viewed in the light of the Bloomsbury meeting? Every delegate sent to that meeting, as representing 75 members, had a right to feel that he was being sent by his branch, not only to voice its feelings, but to exercise a voting power in accordance with its wishes—the method of election surely implied that. If this course were impossible, it would have been a straightforward policy to inform the branches before the meeting. An expression of opinion could have been sent through the post, or, if delegates were deemed necessary, one from each branch would have been ample. The meeting was, however, useful in one respect—that it made abundantly clear how widespread was the opposition to the regulations in their present form. Nor does it seem at all likely that a Council obsessed with the excellence of its own handiwork would introduce modifications sufficiently drastic to meet the generally expressed wishes. There was much diversity of opinion on many of the regulations, but there were at least two points on which opinion seemed almost unanimous:—

(1) That the Matriculation should be the entrance examination to a career in pharmacy. This was coupled with a strongly expressed opinion that Latin should be a compulsory subject.

(2) That a minimum of 4,000 hours' practical shop

training should be required of all candidates before registration for keeping open shop, no matter what their academic attainments might be.

I am writing this letter as an appeal to the Council, before it is too late, to consider carefully whether they should not postpone the adoption of these regulations for twelve months. It cannot, surely, be wise to show a cynical disregard for the wishes of such a large body of loyal members of the Society. It is possible to strain loyalty to the breaking-point; and unless something is speedily done to repair, as far as possible, the culpable blunders made by those who are responsible for the promoting and rushing through these by-laws and regulations at all cost, the confidence of pharmacists throughout the country in their Council will be shaken, and the ballot box may prove the only effective way of registering a protest.—I am, etc.,

Newcastle-on-Tyne.

T. H. FLEMMING, Ph.C.

SIR,—I am sure I am voicing the feelings of the great majority of the delegates who attended the meeting at Bloomsbury Square on March 18 when I say that as an exhibition of bluff I have never up to now met quite its equal. I was present at the by-laws meeting in February at the Society's House, when discussion was very effectively stifled by the definite promise and undertaking that associations would be enabled to discuss the regulations in full, and to send empowered delegates to the House to mould the regulations before being put into effect. Imagine our astonishment to be informed on the opening of the meeting that no voting would be allowed, not even by show of hands, on any matter, but that any expression of opinion would, if the Council thought fit, have its very careful consideration. I beg to submit very strong'y that this was not the impression conveyed at the by-laws meeting, and further that the President, secretary, or Council, whichever is responsible, is guilty of a serious breach of faith in the conduct of that meeting. Sound opinions of men of wide experience, both in retail and academic pharmacy, were listened to with courtesy and attention by the delegates, but the reception of these opinions by the platform was anything but flattering to the speakers, and conveyed the impression that "we are letting you talk, but we know, as you know, that it is a waste of effort and of air." The final resolution on the agenda submitted by the branch of which I was one of the delegates—North-East Lancashire: "That any future proposed alterations in the by-laws or regulations shou'd be first submitted to the branches for their consideration, then at a meeting of the delegates of branches, which meeting shall have the power to determine such proposed alterations," was certainly received by the President with greater consideration than many of the previous resolutions; and I wish to put on permanent record that he definitely pledged the Council that this subject would receive the careful consideration of the annual meeting, with the object of altering the Charter or by-laws, whichever was necessary, to enable such alterations to be dealt with on the lines of the resolution above named. Until this has had their consideration and has been taken into effect, further delegates' meetings are wasteful, needless, and an insult to the intelligence of any member of the Pharmaceutical Society.—Yours faithfully,

Accrington.

A. J. ESPLEY.

SIR,—There is little doubt, among those members who are not obsessed with educational ideas, that in the not-far-distant future the ordinary chemist and druggist will be swamped out with unsuccessful Major candidates; and, in spite of all the assurances, it is only a short step from this provision to the further step of granting the same privilege to bachelors of pharmacy who have been unsuccessful in finding situations—even with the help of the Pharmaceutical Society's Council, and possibly even to unsuccessful university undergraduates as well. After all, why shou'd the man who fails to pass the Pharmaceutical Society's examination be in a more favoured position than the man who fails to obtain a university degree?—Faithfully yours,

QUALIFIED BY EXAMINATION (24/3).

Retail Trade Problems

SIR,—When chemists who are not members of the P.A.T.A. (and if free traders they hate the whole system of price protection—a system which lends itself to abuse, for if it was carried out to include all on a chemist's premises (and why not?) the chemists' combine would have the national health and life at their mercy) find the system has grown so as to be intolerable, they will cease to tolerate it; therefore the more articles it controls the more unwieldy it will become and the greater weakness it will exhibit, until it is swept away by men who will not fear to price the goods they buy—whether P.A.T.A. or otherwise—at what they think is a reasonable profit. When the battle arrives, the chemists, who will thus strive to shake off this strangle-hold and trade stagnation, will make prices that will entice customers to come again and again for the same article in place of seeing them only occasionally. Chemists who have for years fed from the P.A.T.A. spoon may think this a far-fetched view; but Sir William Glyn-Jones knows the weakness of the position, and I should say it takes him all his time to curb the impetuosity of the foolish, some of whom, I doubt not, would even like to have it legalised that no chemist, outside the P.A.T.A. combine, should be allowed to pursue his calling; the subordination of the community being then complete, profits might be gradually increased so soon as chemists obtain the new professional degree. An association which controls manufacturers, wholesalers and retailers, so that no chemist may buy or sell save he that has the mark of the beast (P.A.T.A.), at any rate the price mark, affects those outside such an organisation the most—the general public—and the actual battle of vindicating, not only the liberty of a chemist's right to sell in a free market, but the rights of the community to protection against such a combination, will be supported by the Government whose duty it is to see the public are protected. As Sir John Simon, K.C., declared, a short while ago, "It was not disputed between lawyers that a man was entitled to carry on his trade, and it was wrong to interfere with him"; also, "it was no answer to say that an association was pursuing a legitimate trade object by any means which the law condemned as unlawful"; therefore I consider a case could be brought against the P.A.T.A. which would be the end of it. Some day it is just possible Sir William's favourite will be an "also ran." And when this takes place the smart chemist, no longer hampered and pampered, will launch out, building up his business on the sure foundation of "small profits and quick returns." It is worth note that 43,388 medicine licences were issued in 1922; say 13,388 are held by chemists, there remain 30,000 sellers apart from chemists. "Jay Mack" says there were 7,000 such licences held by the co-operative societies in 1914, and many of these give checks with P.A.T.A. articles, which sometimes amount to 12½ per cent. dividend. "Chained" says "the outstanding fact which emerges from the correspondence is the immunity of the outside trader from interference by the P.A.T.A., while the pharmacist who pays his subscription to the association is rigidly controlled." Such being the truth, it only proves the gracious self-sacrificing spirit of the present-day chemist, or that he has temporarily buried his head in the sand.—Yours faithfully,

VERITAS (23/3).

SIR,—"Ph. Critic" (C. & D., March 21, p. 434) renews the old fallacy of estimating profit by percentage on cost, and says that many protected articles show a profit of 75 per cent. on cost. This means that a line costing 1s. would sell for 1s. 9d. Can "Ph. Critic" point to any line on the P.A.T.A. list which gives such advantageous terms? Why, the agitation of the moment is to endeavour to get a standard rate of 25 per cent. on selling prices of protected goods. Even at this rate the amount wou'd not be excessive. In my own business, which I believe to be run as economically as possible, conducive with paying fair wages to my assistants, I find that the running expenses amount to 23 per cent. of the turnover, after allowing myself a salary equivalent to that I should have to pay a qualified manager to take

my place. This leaves me with respect to proprietary goods (if they carry 25 per cent.) exactly 2 per cent. interest on capital; I could get more than that from investment, and do no work for it, to say nothing of freedom from responsibility and from all the harassing Acts and Regulations we are now subject to. What it really means in practice is that I am compelled to charge a sufficient price for drug sales, packed goods, own-name lines, etc., to make up the deficiency created by the large proportion of patents, and although "Ph. Critic" condemns us even for this, I think he will find that it is exactly what is done by multiple shops and other traders. What is the percentage of profit on leather bags, silver ware, cheap jewellery, and other lines sold by these competitors? How many things are substituted by them when there is no B.P. or other standard? If the minimum retail price was done away with to-morrow, what would happen? Competition worse than anything ever known before would start at once, and (as exemplified in the last few weeks) all the patents would be sold below cost to such an extent that, if any of us were left solvent, even the market stalls would want to stop selling the goods, and the manufacturers themselves would have to think out some scheme to induce retailers to continue the sale of their products.

Faithfully yours,
IDEALIST (23/3).

SIR,—May I be allowed to comment upon remarks of "Ph. Critic" in the issue of the *C. & D.* for March 21? Does he mean by competition the cutting of retail prices—that is to say, articles advertised to the public at 1s. 3d., 3s., and 5s., to be sold at any price below those figures? If such is his idea of competition, it is surely old-fashioned, and, further, has been tried with results too well known to many of us. Competition centres round such qualities as ability, affability, respectability, etc., and there is no need to give the public a share of one's rightful returns. As regards freedom of action, such talk leads nowhere, because "Ph. Critic" is certainly intelligent enough to realise that the higher the state of civilisation enjoyed the less amount of freedom of action is allowed.—Yours faithfully,

TRENTE QUATRE (23/3).

SIR,—Your correspondent, "Ph. Critic," who is anxious to prove the P.A.T.A. the enemy of the pharmacist, has found it necessary to make use of some curious statements. He says (*C. & D.*, March 14, p. 399): "That the P.A.T.A. is the enemy is true, if only from the fact that they take upon their shoulders the responsibility of procuring a certain amount of profit for retail members. This removes the necessity for studying competitive methods." This latter statement is quite inaccurate. On the contrary, it was necessary after the introduction of the P.A.T.A. for the pharmacist to study new competitive methods, because the old and underhand method of cutting prices was no longer open to him. Again (*C. & D.*, March 21, p. 434): "One of the objects of the P.A.T.A. is to obtain as large a profit as possible for the retailers; this is done to such an extent that it almost constitutes an abuse." What "Ph. Critic" evidently forgets is that without the P.A.T.A. in a great many cases there would be no margin of profit at all. He can probably remember the time when many patent medicines were sold at cost price, and in some cases at less than cost. At present, on the majority of protected lines the margin of profit is the smallest that is consistent with the reasonable demands of the retailer. I quite agree with "Ph. Critic" when he says that "a fair profit for a fair sale should be the password"; and that, as I see it, is the policy of the P.A.T.A. I know, and he knows, that the pharmacist did not have a fair profit before the P.A.T.A. was established. How will he be able to ensure himself a fair profit without the P.A.T.A.? "The P.A.T.A.," we are told, "is a danger to retailers, inasmuch as it blinds them to facts." What does this mean? Does it mean that the fact of being a member of the P.A.T.A. implies one's belief in its infallibility? If this is the meaning, I deny the charge. It is admitted

that there are instances of protected articles being cut in price, and in some of these instances the P.A.T.A. experience difficulty in dealing with the offenders. But I do not believe that there is any danger of this being done on a large scale. There is a law for the protection of private property, and another for the protection of life; but burglaries occur every day, and murders quite often. Shall we, then, scrap these laws in view of the fact that they are frequently broken and their principles confounded? Or shall we not rather realise that there is always a small number of defaulters whom no law, neither moral nor static, can deter? And shall we not realise the blessing that the P.A.T.A. has been to us, and individually and collectively determine that it shall continue as such? It is perhaps too much for me to hope that Sir William Glyn-Jones has not seen some of your correspondents' letters of the last few weeks. If it is sharper than a serpent's tooth to have a thankless child, it must be sheer torture to have children like "Ph. Critic" and others. Is it not significant that Sir William Glyn-Jones will sail for Canada, on the invitation of representative interests in Canada, to see if he can be of any service in helping to improve the conditions under which many pharmaceutical products are being sold by wholesale and retail in the Dominion? Is Canadian pharmacy going to welcome and seek the advice of the man who introduced British pharmacy's biggest enemy? Oh, ye of little faith!—Yours faithfully,

W. J. TRISTRAM.
Liverpool.

John Goodyer

SIR,—In my "Flora of Berkshire," published in 1897, I drew attention to John Goodyer's library being contained in Magdalen College Library at Oxford, and in the "Report of the Botanical Society and Exchange Club of the British Isles," as a supplement, I gave an account of "John Goodyer, of Mapledurham, Hampshire, 1592-1664," including a sketch of his life, a list of his discoveries, his contributions to Gerard's Herbal and to Merrett's Pinax, as well as a list of his books in the Magdalen Library. It occupies twenty-seven pages of our report; it has escaped the attention of many writers, but it first showed to what an extent British botany was indebted to the Petersfield botanist.

I am, etc.,
G. CLARIDGE DRUCE.
Oxford.

Are Gift Schemes Worth While?

SIR,—Is it not time the retailers began to do a little thinking about the way they are being made tools of by the advertisers of proprietary lines, who, after filling up the majority of chemists with their regular lines by special bonus terms up to a certain date, immediately afterwards put a new size (or, in the case of face creams, a new perfume) on the market and advertise this, thus killing the sale of the larger size? Then there is this ridiculous idea of giving three sixpenny articles for a shilling or two fourpenny shampoos for fourpence. The writer sold some months ago about 10 gross of sixpenny soap under this scheme; but what has happened? In the aggregate no more soap has been sold, and the stock shelves are loaded with grosses of other makes. Cannot some association take these matters up?—Yours, etc.,

BRUM (11/3).

SIR,—It is good to see that some chemists are beginning to realise the foolishness of encouraging giving-away schemes. When this kind of scheme is imposed on us, and we hear of price cutting as well, surely the limit is reached. One lady customer asked me if I stocked a certain soap, and on being informed that the price was sixpence a tablet, said that a friend of hers had bought two tab'lets for tenpence, and as she had seen the coupon in the paper she wanted three at the same price. I did not trouble to ask her where it was obtained, as I know that prices have been cut locally, but contented myself with telling her as politely as possible to take the coupon to the same shop that her friend dealt at. I wonder how many grocers and others enter these free distribution schemes.—Yours truly,

NOT A "MUG" (21/3).

Legal Queries

F. W. H. (4/3).—"Lassitude" is not an ailment, and a recommendation of a preparation for it would not render the article liable to medicine-stamp duty.

W. B. (23/3).—Codeine is not a drug included in the Dangerous Drugs Act, although it is a derivative of morphine. Codeine derivatives are, therefore, not "dangerous" drugs.

G. & G. (6/3).—Bath salts, which are compositions for making artificial mineral waters, are not necessarily pure or entire drugs. They may be recommended for ailments and may be sold unstamped.

M. P. (17/3).—If you are a registered chemist or otherwise qualified you can sell "known, admitted and approved" remedies unstamped. The reference number must be given on the label of the preparation.

L. S. (19/3).—The conditions regulating the supply of statutory poisons by wholesalers to retailers are given in *The Chemist and Druggist Diary*, 1925, p. 242. If there are any points not quite clear please write again.

Canis (4/3).—As a chemist supplying veterinary medicines you are entitled to use the description "Veterinary Chemist." It would be risky to call your proposed dogs' home a "canine infirmary." See *C. & D.*, March 21, p. 440.

G. W. (5/3).—"Indentured apprenticeship" means serving an apprenticeship under legally drawn up indentures. Experience otherwise gained would not comply with the requirements laid down by the Medicine Stamp Acts.

Querist (16/3).—We are dealing with the changes in the Poisons Schedule in this week's issue and will cover the points you raise. All depilatories do not include barium sulphide; the most popular appear to consist of calcium salts.

Curious (19/3).—Registration of Trade-marks is dealt with in the *C. & D. Diary*, 1925, p. 289. If you neglected to renew the registration when the period expired it is possible that the mark is being used by other people who may object to the re-registration.

T. B. (17/3).—The cough mixture containing chloroform, of which you send the formula, is really an extemporaneous preparation of a chloroform dilution which is outside the Poisons and Pharmacy Acts. The mixture does not therefore require labelling "Poison."

H. C. (19/3).—Corn cures containing extract of cannabis indica require to be labelled "poison" on and after April 3, and can only legally be sold retail by registered chemists. This is in accordance with the Order in Council which was published in the *C. & D.*, March 7, p. 341.

R.S.V.P. (14/3).—The cough mixture labels would render the preparations to which they were attached liable to medicine-stamp duty. The use of a name in the possessive case would involve liability even though the formula was contained in a standard work of reference. We will keep your formulas for registration in the *C. & D. Diary*, 1926.

A. F. (10/3).—It is impossible to give a definite answer to your inquiry as to the risk involved in selling Female Capsules containing colocynth, pennyroyal and iron. These may be used for improper purposes, and in the event of an inquiry evidence might be given that strong aperients such as colocynth may cause miscarriage. The formula reference number you give is for throat pastilles.

J. C. H. (14/3).—If in the cough mixture you employ any other chlorodyne than that of British Pharmaceutical Codex you will need to state the proportion of poison or poisons it contains. If, as is usual, you employ tr. chlorof. et morph. B.P. 1885, it will only be necessary to state the proportion of "tr. chlorof. et morph. B.P. 1885," for example, one fortieth (1/40), or one in forty, or you can state it as a percentage.

J. A. (17/3) employs a lady assistant in his business for two evenings every week. Must he insure her under the National Health and Unemployment Insurance schemes? [The assistant must be insured under both schemes, and "J. A." is responsible for seeing that her cards are stamped each week. If she is also in other employment, the responsibility for payment of her contributions may be shared by "J. A." with her other employers.]

J. H. L. (16/3).—In the article on labelling poison preparations (*C. & D.*, March 14, p. 380) linctus Gee was given as an example of a preparation in fairly frequent demand. If it is sold as "linctus scille co. B.P.C., Poison," that is all that is necessary. This is a recognised formula for Gee's linctus, but it is better to add "B.P.C." If the linctus is mixed with anything else, all that would be necessary would be to state the proportion of the linctus.

A. B. (16/3), having recently carried through satisfactorily the stock-taking and valuation of a friend's business, thinks of taking up valuation as a regular occupation. He asks what is his position as regards the law governing such matters. [Any person, other than a licensed auctioneer, who for or in expectation of any fee or reward makes a valuation which is liable to stamp duty, or exercises the calling of a valuer or appraiser, is required to take out an appraiser's licence, the duty on which is £2 annually. The licence expires on July 5 in each year, and the full year's duty must be paid, no matter when it is taken out. Application should be made to the local officer of Customs and Excise. The valuation, within 14 days after it is made, must be written out upon duly stamped paper, the amount of stamp duty varying with the amount of the valuation, from 3d. where the amount does not exceed £5, to £1 where it exceeds £500. Any person who receives or pays for a valuation which is not duly written out and stamped also incurs a penalty. A valuation made for, and for the information of, one party only, and which is not obligatory between parties, does not require to be stamped.]

Miscellaneous Inquiries

When samples are sent particulars should be supplied to us as to their origin, what they are, what they are used for and how. We do not undertake to analyse and report upon proprietary articles nor to publish supposed formulas for them.

S. W. H. (9/2).—BLACK AND BLUE CLOTH REVIVERS.—These two samples have similar characters, and appear to be simply borax, in which is incorporated a very small quantity of methylene blue powder.

J. H. H. (18/2).—PIGEONS' FOOD, given before flying.—This preparation is a black-grey, putty-like paste, smelling mainly of linseed oil. It contains a blackish body forming a colloid-like solution with ether. This body has the general characters of rubber, and the odour on heating the preparation recalls strongly that of rubber, but it was not ascertained how that was incorporated. Other ingredients are sulphur, potassium nitrate, and magnesia.

J. S. T. (27/2).—INDIAN BRANDY.—The following is from "Pharmaceutical Formulas":—

Sweet spirit of nitre	...	...	3iv.
Tincture of rhubarb	...	...	3iv.
Simple syrup	...	...	3j.
Mix.			

Other varieties with less medicament are made, but can only be sold by those holding a sweets licence.

Pharmakon (2/3) and *W. T. G.* (6/3).—SICK-ROOM SPIRIT.—We cannot supply you with a simple formula for sick-room spirit that has been passed by the Board of Customs and Excise. We indicated in the *C. & D.*, November 1, 1924, p. 646, the method of denaturing that should be adopted, and we think you will find that castor oil 4 oz., and boric acid 2 oz., to a gallon of industrial alcohol, will be accepted. Each formula has to be approved for use by the authorities for each chemist desiring to make it.

R. M. (3/3).—The formulas for tr. chlorof. et morph. co. of the B.P. 1898 and B.P. 1914 are identical except that the quantity of oil of peppermint in the latter was increased from 14 to 19 minims.

Canis (3/3).—LUMINOUS SKELETON.—The application of phosphorus to the skeleton used in the theatrical scene would give it a phosphorescent appearance in the dark. Care must be taken that the phosphorus does not catch fire, as dangerous burns will result if the lighted substance falls on the skin.

H. M. R. (6/3) asks what is the matter with a cat's ear which breaks out in a big lump at the base. The part is full of blood, bleeds freely, and fills up again. [This is a case of dropsy of the ear, common in cats and dogs, and generally due to an injury. Between the skin, upon the inner aspect of the lobe of the ear, there is a distension and a swelling, as if it were wind, but it is serous fluid, secreted by a thin skin or membrane, as found in cysts. The treatment is to open the part, making the incision longitudinal and not transverse, clean out with an antiseptic solution and inject tincture of iodine for two days. It is often necessary to insert a suture through the part and let it remain for a few days, then apply the iodine as above. Care must be taken not to let the dressing into the ear. This can be prevented by plugging the ear with cotton-wool. Zinc ointment or boric-acid ointment can be applied later when the wound is healing.]

G. A. J. (6/3).—(1) The salaries of qualified men in pharmacy vary very much; there is a standard for the multiple shop and another for the single shops. Everything ultimately depends on the capacity for salesmanship, as a qualified chemist employed in dispensing, apart from certain select businesses, is only paid from 60s. to 80s. weekly. Managers are usually paid on a salary and commission basis on profits so that ability can reach £7 and £8 fairly easily. Between 30 and 40 a man has usually "arrived," and whatever a man is earning then is usually his market value: mediocrity receives a mediocre salary of about 90s., but the man with "go" has left this behind; he is worth what he can make. (2) The amount of capital necessary for a business is variable. Some men come through on £100, and another goes down on £1,000. A safe figure for an average man could not possibly be below £500, and he would have to be well equipped in experience to reach any reasonable success.

A. C. (6/3).—PROTECTING WOOD FROM ACID.—The best treatment that would be useful in protecting wood from the action of sulphuric acid would be impregnating it with paraffin wax. There are some sulphuric acid resisting paints sold, having a basis of kaolin or fossil earth, but these would require to be tested to see if they would answer the purpose you have in view.

J. A. (6/3).—Tincture of cubebear is a suitable colouring for the alkaline carminative mixture.

Wilson (7/3).—BALANCE SHEET.—An examination of your balance sheet does not appear to show much possibility of reduction in expenses, but the returns of gross profit are not altogether satisfactory. The turnover is £2,064 and gross profit £401. The conclusion to be drawn from this is that your sales must be largely of unprofitable lines or your selling prices are too low. Supposing the average were maintained your gross profit should be at least £188 higher than you show. The best advice that can be given is to revise your selling prices in the light of cost of material and oncost. If you used the *C. & D.* Retail Price List for drug sales and dispensing, and even only bought at the wholesale prices therein mentioned, your profits would be more satisfactory. Even proprietary lines only should yield better results. Your stock also appears to be heavy for the turnover when you are so near town.

Anxious (9/3).—CHRONIC BILIOUS ATTACKS.—Assuming that organic disease, such as appendicitis or gall stones, has been excluded, the recurrent bilious attacks may be due to an optical defect or to excess of intake and

deficiency of output. In the former case, examination by an eye specialist should put the matter right. In the latter, reduction of starchy and sugary foods and more outdoor exercise is the treatment, also a rectal injection of two pints of warm water every morning before getting out of bed. The injection should be given slowly and an attempt made to hold it as long as possible. The urine should be tested for albumen and sugar.

B. S., Ltd. (10/3).—"GLYCERIN, LEMON AND HONEY."—See *C. & D.*, October 18, 1924, p. 584.

H. C. R. (10/3).—VALUE OF BUSINESS.—Your balance sheet shows your personal profit, after adjustment, to be in 1922 £324, and 1923 £349, though there are a few inconsistent figures in your returns. However, these appear to be the nearest figures obtainable. Out of these totals there is your personal charge to be deducted, which, placed at £200 per annum, would give £124 and £149 respectively. Add to these the £5 at which you value the fixtures and the stock in 1923 (in which you include utensils), the figures are £290. There has been no great progress, and as the business is only four and a-half years there can be little in the shape of goodwill on the above figures, while the prospect of five or seven years' lease under the above circumstances is not particularly valuable. The results for any purchaser would be a variant according to his capacity. In other words, the business is not worth more than one year's purchase of the working profit, *plus* the stock and fixtures.

J. C. (12/3).—DECARBONISING LIQUID for use in motors is generally low-grade paraffin. A litt'e is injected through the sparking plug aperture overnight and in the morning the loosened carbon is blown out as a sooty powder.

J. M. W. L. (13/3).—BRITTLE NAILS is a constitutional defect not amenable to local treatment. Improvement in the general health should be aimed at, and as a temporary measure the local application of a little hard resin ointment to the matrix of each nail.

Kondo (13/3).—WHITE HARD SPIRIT VARNISHES.—The following are formulas free of shellac:—

		I	II		
Sandarac	...	112 lb.	Manila copal	...	112 lb.
Resin	...	56 lb.	Resin	...	112 lb.
Spirit	...	21 gall.	Spirit	...	20 gall.

Hareskin (16/3).—SOFTENING SKIN RUG.—The hardened side of a skin rug is best softened by applying saturated solution of ammonium chloride until the harsh skin is softened. If grease is applied, it should afterwards be removed as completely as possible by means of bran.

Retrospect of Fifty Years Ago

Reprinted from
"The Chemist and Druggist," March 15, 1875

Coca Leaves

Some feeble efforts have been made lately to establish coca and boldo leaves as staples on the market, but not very successfully hitherto. The few parcels of the former that have yet been sold in this country have been for export, and some boldo leaves imported from Arica in Peru, which were offered a fortnight ago, failed to find a purchaser at the stipulated price of 14s. per pound. With regard to coca (*Erythroxylon coca*), we may mention here that we learn from a gentleman interested in its sale that its anticipated physiological effects are not observable if taken by itself. The natives, it seems, masticate it with lime as a stimulant, and, it is said, with wonderful effect. If this be true, it is very likely analogous to the effect of betel-nut in India when used with *chunam* or lime. This, as is well known, produces a kind of intoxication to beginners, the reverse of agreeable, with a most copious flow of saliva, which by habit becomes so much modified that to some extent the drug takes the place of tobacco in India. It is also said that in Peru the coca leaves are masticated with the seeds of *Chenopodium quinoa*, and serve as a stimulus to the nervous system. It may be mentioned that these leaves (*C. quinoa*) are used as spinach both in Peru and in this country.

[Commenced C. & D., July 5, 1924]

Cantharides, or so-called Spanish "flies," are oblong beetles about 1 inch long, $\frac{1}{4}$ inch in diameter, with wing-cases of a shining coppery-green colour. They are widely distributed in Southern Europe, occasionally reaching the coast districts of the East of England, but are collected for commercial purposes in Russia, Galicia and Roumania, and to a lesser extent in Italy and Spain. The name of the beetle is *Cantharis vesicatoria*, Latreille. They are collected in early morning while still sluggish before sunrise by beating the bushes on which they rest, cloths being placed beneath, and are then killed by exposure to fumes of ammonia. For export purposes, Chinese cantharides are packed in tin-lined or otherwise waterproofed cases of half a picul (66½ lb.) net. The general experience of the trade is that there is little or no attempt to adulterate the drug. The flies are caught at the beginning of summer, and are generally ready for export soon after that, say, the middle of June. Most of the exports go to England, the United States, and Germany, smaller shipments being made to other European countries. Cantharides owe their value to the presence of cantharidin ($C_{10}H_{12}O_4$), which on hydrolysis is converted into cantharidinic acid ($C_{10}H_{14}O_5$). It crystallises on coloured plates, insoluble in alcohol but not in water. Good samples of cantharides yield from 0.5 to 0.8 per cent. of cantharidin. They are subject to the attacks of mites if not kept dry. These may be killed by the use of a few drops of chloroform or benzene placed in the bottle in which they are kept. Chinese cantharides are derived from different species of blistering beetles, belonging to the genus *Mylabris*, which are regularly imported for the extraction of cantharidin. These are composed of a varying mixture of two species, *Mylabris Sidæ*, Fabricius (formerly called *M. phalerata*, Pallas), and *Mylabris Cichorii*, Fabricius. They have, like most species of *Mylabris*, wing-cases transversely marked with bands of brown and black. The *M. Sidæ* are the larger of the two, and richer in cantharidin, so that the value may be roughly estimated according to the proportion of the larger species present in the mixture. The Chinese cantharides yield from 1 to 1.2 per cent. of cantharidin. Other species occasionally appear in commerce, e.g., *M. bifasciata*, Oliver, and *M. lunata*, Pallas, from South Africa; also *Epicanta Gorhami*, Mars., from Japan; but although *M. bifasciata* contains a fair proportion of cantharidin, it does not appear to be able to compete with Chinese cantharides in price. The so-called Mexican cantharides sold as an addition to poultry food are not blistering insects, but are small aquatic insects of the genus *notonecta* and *boriza*. (See "Year-Book of Pharmacy," 1920, p. 338.) A detailed examination of *M. bifasciata* and *M. lunata* was made in 1837 by J. O. Braithwaite, who found that the former yielded more than twice as much cantharidin as *Cantharis vesicatoria*, but that the latter was much poorer in cantharidin. ("Year-Book," 1887, p. 469; C. & D., II, 1887, p. 287.) On account of its rubefacient and vesicant properties, cantharides has a wide application in medicine.

Cantharides Poisoning: Antidotes.—The stomach pump or wash-out can only be used if there is no inflammation. Emetics are better, or, if the throat is too inflamed, injection of apomorphine, and later mucilaginous drinks, such as mucilage of acacia and water, barley water, gruel, and subsequently injection of morphine gr. $\frac{1}{4}$, if necessary. All oils and fats should be avoided.

Caoutchouc.—See Rubber.

Cape Province.—To practise as a chemist and druggist in the Cape Province a licence must be obtained from the Pharmacy Board after examination. Examinations are held in May and November. Candidates must produce a certificate from a duly licensed chemist and druggist resident in the Province or elsewhere, stating that the applicant has been duly indentured and has served as an apprentice for a period of not less than four years. He must also submit a general education certificate showing that he has passed the following standard:—(1) Any preliminary examination accepted by the Pharmaceutical Society of Great Britain; (2) School Higher examination of the Cape University, or junior examination certificates of the University of South Africa; (3) any examination of an examining body approved by the Pharmacy Board. The following certificates are accepted by the Board for registration to practise as a chemist and druggist in the Cape Province without further examination: the Major and Minor of the Pharmaceutical Society of Great Britain; Pharmaceutical Chemist of the Pharmaceutical Society of Ireland; examination certificates of the Pharmacy Boards of Natal, Transvaal, Queensland, Tasmania and Victoria. The subjects of the examinations conducted by the Cape Pharmacy Board include prescriptions, practical dispensing, pharmacy, *materia medica*, botany, and chemistry. The examination fee is £3 3s., and the registration fee £2 10s., while an annual trading licence, costing £8, has to be taken out by all apothecaries, chemists and druggists. In addition, chemists and druggists have to take out annually a general dealer's licence, the amount of which is based on the turnover, the lowest charge being £7 10s., where the turnover of the business does not exceed £1,000 yearly.

Capital.—In a firm, capital is the excess of assets over liabilities. In the case of a company, it is the amount paid up on shares which have been subscribed for. There may be nominal capital, which is the amount authorised as distinct from paid-up capital.

Capital Account.—See Book-keeping.

Capital Expenditure.—This is a term employed to show the acquisition of property or rights for the purpose of earning income or producing profits.

Capital of Companies, Increasing and Reducing.—A company limited by shares may, if its articles of association provide, increase its capital by the issue of new shares to any extent it sees fit. If the articles do not make provision for increasing the capital, they can be altered by special resolution of the company to allow this to be done. The procedure laid down in the articles is to be followed in making any increase; and within fifteen days after the passing of the resolution authorising the increase notice must be given of the increase of capital to the Registrar of Joint Stock Companies. The reduction of a company's capital is not so easily effected. Except in the case of cancellation (see Cancelling Share Capital), the only instance in which a company can reduce its capital without applying to the Court for permission is where it pays off paid-up capital out of accumulated profits made by the company. This is done by special resolution, and the reduction is not to take effect until particulars have been furnished to and registered by the Registrar. For any other kind of reduction the sanction of the Court has first to be obtained after the necessary resolution for reduction has been passed; and the Court may allow any creditors of the company to object to the reduction, and if the proposed reduction involves either a diminution of liability in respect of unpaid-up share capital or the payment to any shareholders of any paid-up share capital, the Court must allow the creditors to object, and ask to be either paid or given security for payment. The types of reduction most commonly carried out are: (a) The paying off of capital not wanted for the purposes of the company. This takes the form generally of remitting the liability to pay up some portion of capital which is unpaid on shares. (b) The paying off of capital on the understanding that it may, if required, be called up again. (c) The writing off of capital which has been lost. (d) The relieving shareholders of liability in respect of shares not fully paid up. The consent of

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the Court is in the form of a minute and order, and this has to be filed with the Registrar to complete the reduction.

Capsicums.—Capsicum fruits are derived from *Capsicum minimum* (N.O., Solanaceæ). The fruits of the genus capsicum all have a characteristic strong, pungent flavour, and are known in commerce under the names of cayenne pepper, chillies, Guinea pepper, Spanish pepper, red pepper, etc. Of recent years it has become more common to call the dried whole fruits "chillies," and use the term "cayenne pepper" for the ground and prepared spice. The three most important producing countries are in East and West Africa and India. Capsicums are also grown in Japan, Dutch East Indies and Straits Settlements. The capsicums exported from Japan always bear the name "chillies," and are noted for their brilliant red colour. In pungency they are inferior to the capsicums produced in Africa, but, due to their colour, they are in demand in spice-grinding countries. Very often the Japanese chillies are mixed with those from Africa or India, thus giving a combination of brilliant colour and pungency. Penang is the collecting centre for capsicums in the Straits Settlements; from this port coasting steamers carry the cargo down to Singapore, where it is packed for export shipment. Singapore also imports capsicums in considerable quantities from Pegu, in lower Burma. In the Dutch East Indies, Java is the chief producer of capsicums, but the other islands of that group also export in smaller quantities. Preparation for export shipment consists merely in picking the fully ripe pods from the plant, and thoroughly drying them in the sun. They are usually packed in gunny bags, but no standard size has been adopted for all the producing countries. There are about 30 species of capsicums, all native to Central and South America, but now grown in various parts of the world. Of these, *Capsicum annuum* and *Capsicum frutescens* supply the peppers used as spice.

(1) *Capsicum Annuum*.—*Capsicum Annuum*, the annual or common capsicum, is a hardy herbaceous plant, which attains a height of two or three feet. There are numerous cultivated forms, differing in the shape and colour of the pod, which varies from a more or less round to a conical shape, with a smooth or wrinkled coat, and white, yellow, red or black in colour. The pods are two to three inches long. Several varieties of capsicum annuum have little or no pungency; one of these is extensively grown in Hungary, and forms the paprika which is an important condiment in Europe and America.

(2) *Capsicum Frutescens*, spur or goat pepper, is a dwarf shrub, and it is this variety that is usually known as "chillies." The pods are much shorter than those of the *Capsicum annuum*, usually about $\frac{1}{2}$ to $\frac{3}{4}$ in. long, thin and narrow in shape, bright red in colour, and with a strong pungent odour. The capsicums grown in Japan, Dutch East Indies and the Straits Settlements are mostly of this variety.

(3) *Other Varieties*.—These are *Capsicum tetragonum*, or bonnet pepper, bearing very fleshy fruits and much esteemed in Jamaica; *Capsicum cerasiforme*, or cherry pepper, with small berries instead of pods; *Capsicum grossum*, or bell pepper, which has thick and pulpy fruit, and is used for pickling; and *Capsicum baccatum*, or bird pepper, given in powdered form to canaries to improve the colour of their feathers.

Exports.—The exports of capsicums from Japan, India, Dutch East Indies and the Straits Settlements go chiefly to the United States and European countries. Most of Japan's chillies are shipped to America, via Europe. In 1922 Zanzibar exported 80,000 lb., against 48,432 lb. in the previous year. Kenya and Uganda shipped 17,169 cwt. (£42,914) in 1923, compared with 9,588 cwt. (£43,951) in 1922, and the exports from India in 1923 amounted to 158,456 cwt. (Rs. 44,88,692), against 162,663 cwt. (Rs. 51,18,816) in 1922. Nyasaland shipped 14,258 lb. (£397) in 1922, there being no exports in 1921, and Nigeria shipped 3,074 cwt. (£4,106) in 1922.

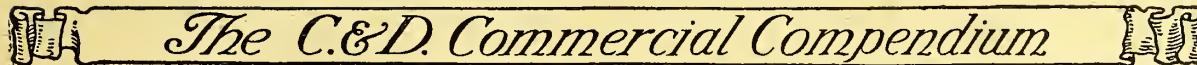
Capsules.—Gelatin or other capsules for administering medicines are not an enclosure *ejusdem generis* with a box, bottle, etc., but this ruling does not apply to an outer capsule or container for capsules. Enclosing an otherwise non-dutiable medicine in cachets, capsules, or the like, does not make it dutiable; nor are such medicines liable by reason of enclosure in a capsule in the making of which patent rights exist or to which proprietorship claims are made.

Caramel.—Caramel, the burnt sugar (*saccharum ustum*) of commerce, is used as a harmless colouring for beverages, foodstuffs, gravy salts, and in medicines. The commercial variety is usually of a syrupy consistence, with a distinctive odour and somewhat bitter taste. Many of the caramel colours are made by boiling thick syrups of raw cane sugar or glucose (starch sugar) with caustic soda or ammonium carbonate until the desired shade is obtained, the action being stopped by addition of water. Alternatively glucose or crude cane sugar is heated until it turns brown and finally froths (at about 200° C.). Care is needed to prevent the process being carried too far, in which case the dark-brown brittle mass becomes partially insoluble. Caramelan is the name given to the colouring substance produced by dehydration of sugar. There are quite a number of types of caramel colourings for beer, vinegar, wines and spirits. Thus rum colouring must remain clear when mixed with comparatively strong alcoholic solutions.

Carat.—The term has two meanings in commerce.—(1) In stating the fineness of gold, the carat is a proportional measure of a scale of 24 parts—e.g., 22-carat gold consists of 22 parts of pure gold and 2 parts of alloy. The carat is the successor of the Roman *silique* and the Greek *keration*, equal to $\frac{1}{24}$ part of the golden solidus of Constantine. The recognised "strengths" of gold, expressed in carats, are 9, 12, 15, 18, and 22; the alloying metals are silver and copper in varying proportions. (The fineness of gold is also expressed as parts in 1,000—e.g., 916.6 fineness corresponds to 22 carats.)—(2) In selling precious stones, the carat is a standard of weight varying slightly in different parts of the world. The English carat equals 3.17 grains, and is divided into four carat-grains.

Caraway Oil.—This oil is distilled from the caraway fruits, the product of *Carum carvi*, a plant found in Central and Northern Europe, and cultivated to a large extent in Holland, where a large amount of the oil is distilled. It is employed to some extent in medicine, being used in preparations for infants in the form of a water, which is substantially identical with dill water. It is used as a perfume (principally in brown windsor soaps), and to some extent in confectionery. The name is derived from the Arab *karawya*. The fruits yield from 3 to 7 per cent. of an aromatic oil of specific gravity 0.937 to 0.918; optical rotation, + 70° to + 83°; refractive index, 1.484 to 1.489; and carvone content, 50 to 60 per cent. Caraway oil consists almost entirely of carvone and the terpene limonene, and, as its value depends entirely on its carvone content, a pure oil can be correctly valued according to its specific gravity, that of carvone being 0.964 and that of limonene 0.848. On the Continent carvone is used to a considerable extent instead of the oil. Hence there is a good deal of decarvonised oil to be disposed of. This is used as such for cheap soap perfumery, when it is sold as "light caraway oil," or as "caraway chaff oil." Much of this light oil, however, is used to reduce the specific gravity of rich oils, and so reduce them down to the lowest limit permitted by the limit figures of the various pharmacopeias.

Caraway Seed is the dried ripe fruit of *Carum carvi*, and is cultivated principally in Holland, and to a small extent in Morocco and Scandinavia. Holland grows the finest seed, the crop reaching maturity in July. The distillation of caraway oil usually takes place in Holland,



Germany and England towards the end of August. The average yield of seed of the Dutch crop is from 5,000 to 6,000 tons a year. The fruit itself is largely used in the manufacture of confectionery (cakes, bread, etc.), liqueurs, sweetmeats, etc., while the chief use of the oil is in soap making (brown windsor).

Carbolic Acid, or phenol (C_6H_5OH), is a term applied in commerce to a wide range of products, from absolute phenol to tar oils, containing cresylic acids and other homologues of carbolic acid, which may be quite free from carbolic acid itself. (See Cresylic Acid.) Carbolic acid and liquid preparations containing more than 3 per cent. of carbolic acids and its homologues are included as poisons in Part II of the Poisons Schedule, except when sold for agri-horticultural purposes in a sealed vessel labelled "Poisonous," etc. (See Carbolic Acid, Sale.) The poisonous homologues are known in commerce as cresylic acids (q.v.) or tar acids. All the different carbolic acids are obtained from coal tar distillates, the working of which depends largely upon the market prices of phenol and cresol. When prices are low, cresote for wood preserving is comparatively rich in tar acids; whereas when demand for coal tar disinfectants is good, it consists almost entirely of neutral naphthalene oils. Phenol is obtained from "carbolic oil," the fraction of the "middle oil" from coal tar distilling between 170° and 230° C. There are many stages of purification, including extraction with caustic soda and fractional distillation of the carbolic acid, separated by adding sulphuric acid. Carbolic acid is liable to retain impurities which cause it to turn pink on exposure to air, but acid free from this trouble is available at commercial prices. Pure phenol, or absolute carbolic acid, is sold in "detached" crystals of 100 per cent. purity which melt at 42° C., but the British Pharmacopoeia permits a melting point not lower than 39° C., as pure carbolic acid is decidedly hygroscopic. The "No. 1 acid" or "ice crystals" quality of carbolic acid also melts at 39° to 40° C., but consists of a deliquescent crystalline mass: $\frac{1}{2}$ -lb. and 1-lb. bottles are the usual packing for these forms of carbolic acid. In bulk for export 3 cwt. drums and/or casks are used. Acidum carbolicum liquefactum, B.P. (s.g., 1.067-1.069), is made by adding 15 parts by weight of water to 100 parts by weight of pure phenol (contains almost 87 per cent. of carbolic acid). This solidifies in a cool atmosphere. Carbolic acid possesses the somewhat dangerous property of separating into two layers when about 40 per cent. of water is added, and complete solution does not result until twelve times its weight of water has been added. The No. 5 or crude carbolic acid of commerce is a cresylic acid disinfectant of varying activity, which may consist of comparatively inert naphthalene oil. Miscible cresylic acid disinfectants have largely replaced the older crude carbolic acid for use as disinfectants and deodorants for domestic and public purposes. These are packed in five, ten, fifty and ninety gallon drums and forty gallon casks. Pure carbolic acid is used in medicine chiefly in the form of a 1 in 20 solution (5 per cent.) as an antiseptic lotion for wounds; but it is frequently necessary to add water, owing to toxic absorption. Carbolic acid is the standard of reference as regards the germicidal value of disinfectants as tested by the Rideal-Walker method. These carbolic acid co-efficients are much less in actual use in contact with organic matter. Care must be used in applying liquid carbolic acid to the skin (for acne) or to hollow teeth, as bad burns may result. Camphorated carbolic acid (phenol 1, camphor 3) is much safer. Carbolic acid gargle is strength of 1 in 100 (or 1 glycerin of phenol (20 per cent.) with 19 water). Carbolic acid ointment, B.P., is of 3 per cent. strength.

Carbolic Acid Poisoning: Antidotes.—In cases of poisoning by carbolic acid the emergency treatment is stomach wash-out with a solution of magnesium sulphate (1 in 10) or sodium sulphate solution. The continued

treatment includes albumen in plenty of water, warmth, interrupted current, strychnine injection, oxygen, and artificial respiration where necessary. Liquid preparations of carbolic acid and its homologues containing more than 3 per cent. were added to Part II of the Poisons Schedule, in substantially the same defining words as those in the present Act of Parliament, on July 2, 1900. For many years previously THE CHEMIST AND DRUGGIST had urged the inclusion of these poisons in the Schedule; and when the reform was at last effected the exemption in favour of agricultural and horticultural preparations caused much dissatisfaction. The annual average of deaths in England and Wales which, reckoning by quinquennial periods, reached its maximum in 1897-1901 (accident 38.6, suicide 157.6), then fell steadily to 24.2 and 139.2 respectively in 1902-06, 15.6 and 89 respectively in 1907-11, and 13.0 and 61.2 respectively in 1912-16. The highest accident figure recorded from 1882 inclusive is 45 (in 1899), and the lowest 8 (in 1920); the largest suicide figure is 224 (in 1895), and the smallest 19 (in 1882). Recent statistics of poisoning by carbolic acid should be read in conjunction with the corresponding ones for lysol poisoning, which, commencing in 1909 with one accidental and one suicidal case, have increased to 7 and 56 respectively in 1922. Taking scheduled poisons in order of frequency from 1882 to 1916 inclusive—and this is a convenient period because, after 1916, war conditions had a striking effect on poison statistics for at least two years—carbolic acid stands second on the accident side in a list of fifty-four substances recognised as toxic, with a mean annual average of 25.0; as a means of suicide it comes first out of forty-nine substances, with a corresponding average of 97.6. A curious detail of suicidal poisoning, however, is that in 1908 oxalic acid took the lead and, allowing for fluctuation from year to year, has retained it, the total figures from 1908 to 1922 inclusive being: Oxalic acid 947, carbolic acid 910. The average of accidental poisonings by carbolic acid in Scotland for 1882-1916 inclusive is 5.1; the corresponding average for suicide is 3.7. In Ireland, details of poisonings prior to 1901 are not available; the average of accidental poisoning for 1901-16 inclusive is 2.5, and that of suicidal poisoning just below 2.0.

Carbolic Acid, Commerce of.—The following figures show the exports and imports from and to the United Kingdom from 1920 to 1923, the latest figures available:—

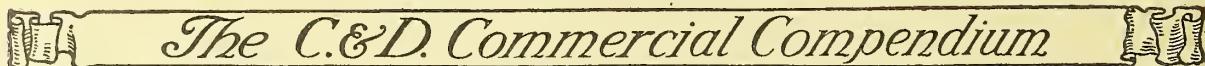
Exports

	1920	1921	1922	1923
	Cwt.	Cwt.	Cwt.	Cwt.
Sweden	6,986	1,108	307	39
Germany	446	251	11,659	18,375
Netherlands	1,128	3,468	35,271	11,968
Belgium	2,350	846	3,945	4,731
France	1,031	63	1,360	2,533
Italy	1,275	527	1,666	1,524
Japan	59,159	16,707	27,649	21,858
U.S.A.	95,980	24,404	44,688	40,957
Other foreign countries ..	6,935	3,449	4,313	23,036
British Possessions ..	8,747	5,504	9,479	8,537
	184,037	56,327	140,337	133,558
	£545,491	138,114	283,430	400,921

Imports

	1920	1921	1922	1923
	Cwt.	Cwt.	Cwt.	Cwt.
Total from foreign countries	102	6	69	2,346
Value	£217	22	171	6,809
Total from British Possessions ..	320	—	—	—
Value	£895	—	—	—
Total	422	6	69	2,346
Value	£1,112	22	171	6,809

Carbolic Acid, Sale [Off. Abbrev.: Acid. carbol.].—Carbolic acid and any liquid preparations of carbolic acid and its homologues containing more than 3 per cent. of these substances come within Part 2 of the Poisons Schedule of the Poisons and Pharmacy Act, 1908, except preparations for use as sheepwash or for any other



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purpose in connection with agriculture or horticulture contained in a closed vessel distinctly labelled with the word "Poisonous," the name and address of the seller, and a notice of the special purposes for which the preparations are intended. Below this strength the preparations may be sold by retail by others (under Section 5 of the Act) than chemists, providing that the label on the box, bottle, vessel, wrapper or cover shows: (1) The name of the substance, (2) the word "Poisonous," (3) the words "Not to be taken," (4) the name and address of the seller, and (5) the container must be "rendered distinguishable by touch from ordinary bottles or containers."

Carbolic Disinfectant Powders usually contain from 12 to 18 per cent. of crude carbolic oil mixed with a cheap siliceous absorbent, such as kaolin or kieselguhr. Calcium acid sulphite is the base used to take up crude carbolic acid in MacDougall's disinfecting powder. "Carbolic acid" disinfectant powders should only be bought from makers of repute or to specifications accepted by public health officials, as otherwise they may contain worthless coal-tar oils or be rendered inert by alkalinity of lime base. Carbolic powders do not come within the schedule of poisons, as this refers to liquid preparations of carbolic acid, etc.

Carbolic Oil usually contains 5 per cent. of carbolic acid dissolved in olive oil; but though used as a dressing for burns or scalds, it is practically devoid of anti-septic action. The carbolic oil of the gas works is crude carbolic acid containing about 60 per cent.

Carbolised Dressings are made 5 per cent. strength; carbolised wool, lint, and gauze should be kept in sealed packages, as the phenol becomes oxidised on exposure to air. Carbolic tow is the cheapest form of surgical dressing.

Carbon.—The atomic weight of carbon (C) is 12.0. It is an element occurring naturally both free (as diamond, graphite, and amorphous carbon) and combined (chiefly as carbonates and atmospheric carbon dioxide). Carbon possesses a facility for forming chain and ring compounds, especially with hydrogen, oxygen, nitrogen, phosphorus, and sulphur. Organic chemistry is the chemistry of the carbon compounds, while bio-chemistry is the section of organic chemistry relating to the processes of life. See Charcoal, Diamond, Graphite.

Carbonado is a name given to black diamonds from Brazil, which are mounted into rock drills and in tools for dressing emery wheels and cutting glass. *Bort* is a still rougher form of diamond, and may consist of coarse carbonado or splintered ordinary diamond. Crushed carbonado or bort is the hardest abrading agent known.

Carbon Bisulphide.—Carbon bisulphide (CS₂) is made on a manufacturing scale by passing the vapour of sulphur over red-hot charcoal or coke. Commercial carbon bisulphide is a colourless heavy liquid (s.g. 1.268) with a fetid odour, due to impurities, the pure compound being sweet-smelling. It is a highly volatile, dangerous liquid (boiling at 47° C.), as its vapour is poisonous, highly inflammable, and gives explosive mixtures with air. Storage and transport conditions are as for benzol and ether. The chief uses of carbon bisulphide are as a solvent for sulphur compounds in the vulcanising of rubber and for the extraction of press cakes in oil and fat technology. In pharmacy it is used as a solvent for phosphorus in making rat-pastes and phosphorus pills. Carbon bisulphide has been employed as a fumigant to kill weevils and the larvae of other insects in granaries and grain cars, 1 lb. of carbon bisulphide being employed per 1,000 cubic feet of space. It is liable to leave an objectionable odour, and on this account, as well as danger of fire and explosion, it is being replaced by a non-inflammable fumigant, consisting of ethyl acetate four parts and carbon tetrachloride six parts (both by volume), 40 lb. per 1,000 cubic feet air space being used.

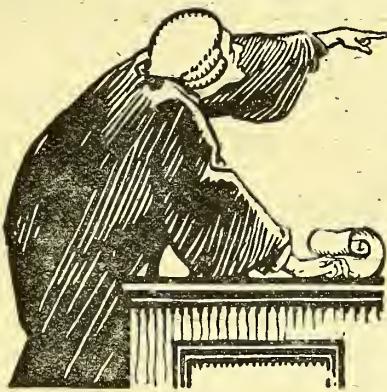
Carbon Black, or lampblack, is the soot obtained by burning mineral oils, fat, tar, or other highly carbonaceous waste with an insufficiency of air for complete combustion. The products pass into chambers containing suspended cloths, on which the fine particles of lampblack deposit, the heavier soot remaining in the flues. Lampblack contains about 80 per cent. of carbon and a varying amount of oily impurities, water, and ammonium salts. Carbon black is used in the manufacture of printers' ink, crayons, carbon paper, typewriter ribbons, stove and boot polishes, gramophone records, and rubber tyres.

Carbon Dioxide (CO₂), compressed into liquid form in iron cylinders or steel bottles, is a product of considerable commercial importance, for which the principal outlet is in the production of aerated waters. The carbon dioxide gas is obtained as a by-product in brewing, being evolved in the saccharine fermentation of wort by means of yeast. It is liquefied by compression pumps, and the ordinary size of gas cylinder contains about 25 to 30 lb.; but there is also a smaller size of about 7 lb. for use as a surgical refrigerant (see Carbonic Snow). Liquid carbon dioxide is a limpid colourless liquid, boiling at -72° C. It is readily soluble in ether, and this solution is sometimes used for removing naevi, etc., instead of carbon dioxide snow, as its evaporation produces intense cold. The gradual liberation of carbon dioxide in aerated waters, beer and sparkling wines is due to gradual decomposition of the weak carbonic acid. The formation of this acid is highly important in control of acidity (or hydrogen ion concentration) of the blood; excess of carbon dioxide in the lungs leads to acidosis. The tolerance of animals to air containing carbon dioxide is high, as this does not have any suffocating effect until the proportion exceeds that in the lungs (over 50 per cent.). The normal amount of carbon dioxide in the atmosphere is less than 4 parts in 10,000, and may attain ten times this amount in crowded rooms; but the sensation of bad ventilation is due to moisture effects, not to increase in carbon dioxide.

Carbon Monoxide has no industrial use other than as a constituent of low-grade combustible gases (water gas, Mond gas, or producer gas) produced by the action of steam on red-hot coke (C + H₂O = CO + H₂). These gases are odourless and highly poisonous, owing to absorption by the blood with formation of carboxyhaemoglobin. One part of carbon monoxide in 500 of air may prove fatal, as the changed haemoglobin is lost as regards aeration of blood. Considerable danger of carbon monoxide poisoning arises from leaks of coal gas, flueless gas-heated geysers, choked flues of geysers, or coke or anthracite stoves. The practice of running motor engines in badly ventilated garages is also dangerous, as the exhaust gases often contain a considerable proportion of carbon monoxide. Fatalities have occurred from all the above causes, as well as from the after-damp of coal-mine explosions. Oxygen inhalation is the first antidote to carbon monoxide poisoning.

Carbonic Snow, or solid carbon dioxide, is obtained by allowing liquid carbon dioxide to pass into a flannel bag or towel (rolled into a cylinder closed at one end), when evaporation of part of the liquid causes the remainder to be deposited as a flocculent white mass, which is readily pressed into moulds. Pencils shaped to fit the area of skin to be treated are applied for 10 to 40 seconds to remove blemishes, such as moles and naevi. Care is needed in judging the length of application, because, though the application is painless, the recovery of the frozen tissue is attended with inflammation, the extent of the subsequent wheal depending upon pressure applied as well as length of application. Any inflammation should be allowed to subside if a second application is required. Warts usually require two or three applications.

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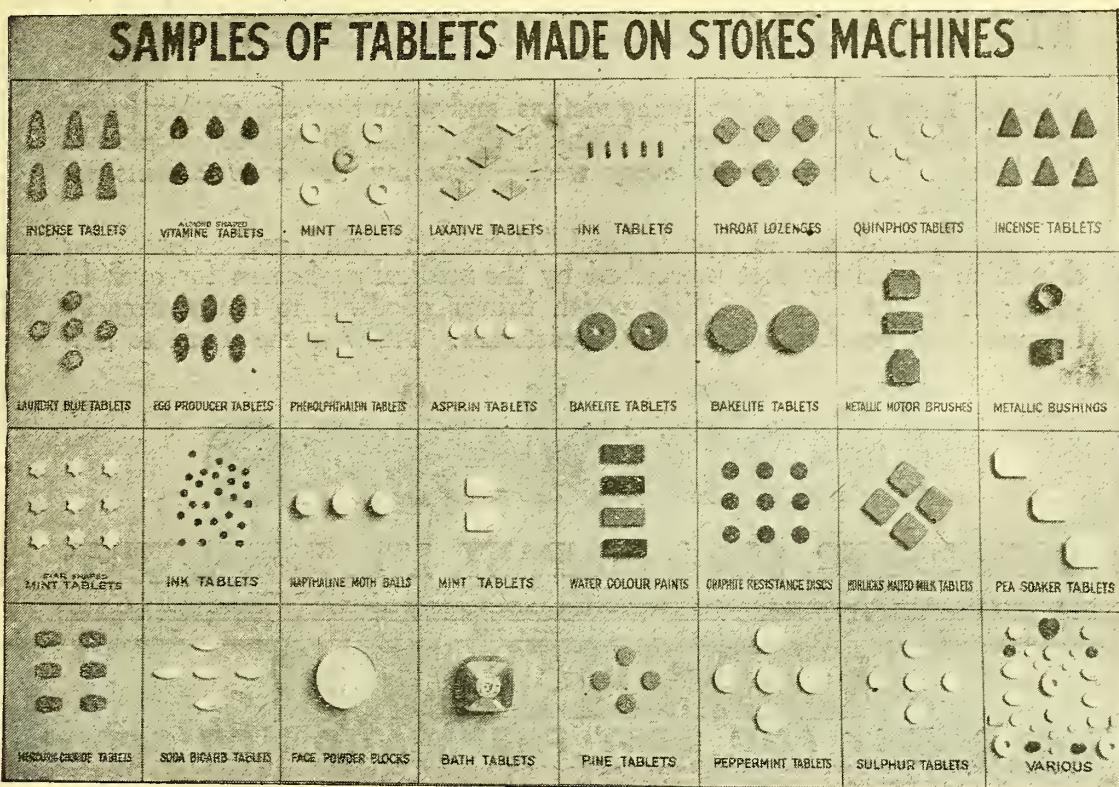
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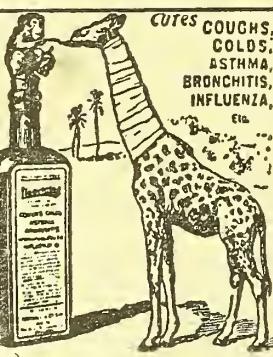
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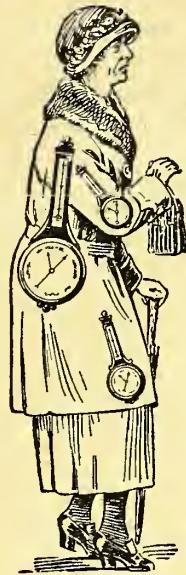
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The Gothic window and the name “DR. BOW'S LINIMENT” are Registered Trade Marks and appear on every bottle. Anyone using the name or any similar name is liable to be proceeded against.

The above label in Blue appears on outside wrapping.

DR. BOW'S LINIMENT, Ltd.
Works—7 South Gray St., Edinburgh,
Registered Office—Palace Chambers, London, S.W.1





CURICONES

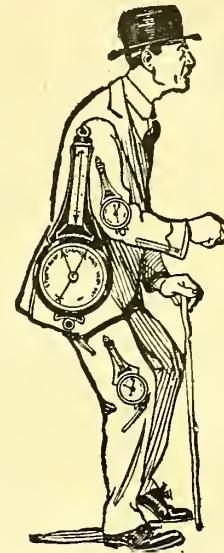
The Wonderful Seller for
**Rheumatoid Arthritis, Gout, Neuritis,
Rheumatism, Lumbago and Sciatica.**

Well advertised. Recommended by Doctors.
Quick Sales. :: Generous Terms.

Stocked by ALL Wholesale Houses.

Other lines:—

ARTHROIDS BALM, CURILAX, VICAPS,
STEMAT ANTI-CATARRHAL TABLETS,
STEMAT ANTI-CATARRHAL BALM,
MY LADY'S ROLETTE WRINKLE ERADICATOR,
THE QUOPAD MASSAGE APPLIANCE,
SANALVE, VANITY BOXES, ETC., ETC.



..... Write for particulars
of Cash Bonus for
Window Display.

STEPHEN MATTHEWS & Co. Ltd.

Manufacturing Chemists

19-20-21 FARRINGDON ST., LONDON, E.C.4.

Telephone: City 8342.

Telegraphic Address: "Curicones, Cent, London."

TO THE RETAIL CHEMISTS and DRUGGISTS of GREAT BRITAIN

FOR some time past the "Wampole" Brand Specialities have been regularly detailed and sampled to the Medical Profession of Great Britain, with the result that the demand has increased greatly and is steadily growing.

All chemists should have these well-known preparations on hand in order to be able to fill promptly physicians' prescriptions.

	Per Dozen	Suggested Price to Consumer
Extract of Cod Liver	15 oz. 52/-	6/-
Phospho-Lecithin	6 oz. 30/6	3 1/2
	16 oz. 70/6	8/-
Creo-Terpin. Comp.	8 oz. 38/6	4 1/2
	16 oz. 80/-	9/-
Magma Magnesia	8 oz. 43/-	5/-
	16 oz. 26/6	3/-
Antiseptic Solution (Formolid Brand)	12 oz. 45/-	5/6
Magnolax Brand Emulsion, 16 oz.	45/-	
Winchesters—Prices on Application.		5/6

MADE IN CANADA BY

HENRY K. WAMPOLE & Co. Ltd.
Manufacturing Pharmacists,
PERTH, ONTARIO, CANADA.

British Distributors:
FRANCIS NEWBERRY & SONS, LTD.
LONDON, E.C.1.

TESTOGAN FOR MEN. THELYGAN FOR WOMEN.

*A Proven Efficient Remedy
(Formula of Dr. Iwan Bloch)*

INDICATED IN

**Impotence and Insufficiency
of the Hormones.**

YOHIMBIN TABLETS & AMPOULES

**BISMOLAN SUPPOSITORIES AND
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BUTLER & CRISPE, English Distributors
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A vital necessity to some—health-promoting for everybody

To those afflicted with GOITRE, OBESITY, RHEUMATISM, etc., Iodine is essential—it is the finest of all known preventives. To all, whether their health be good, bad or indifferent, Iodine will prove a great help in maintaining or improving their general health.

PREMIDO IODISED TABLE SALT

—prepared under medical advice—offers the best and simplest method of taking Iodine in regular and correct proportions. It is simply a pure table salt, to be used in the ordinary way, containing a minute quantity of Iodine. There is no smell and no difference in taste.

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GEO. HAMLETT & SONS, LTD.
Salt Manufacturers, Winsford, Cheshire.
(Makers of the well-known Premier Pure Table Salt.)

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1. Genasprin carries a handsome margin of profit for retailers.
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4. Genasprin is the *Safe Brand of Aspirin*, and because of its absolute purity you may confidently recommend it.

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English Filter POSTLIP Papers

SQUARES
CIRCLES
FOLDED
ROLLS

WHITE
GREY
PLAIN
ANTIQUÉ
EMBOSSÉ
CRINKLED

SAMPLES
FREE



*Evans, Adlard & Co Ltd
Postlip Mills, Winchcombe, R.S.O. Glos.*

J. D. RIEDEL'S Name Stands for
Tested & Proved Value.

NOCTAL

(Isopropyl-brompropenyl barbituric acid)

The New Safe and Effective Soporific.

Gonosan, Neobornyal, Degalol, Thiol, Ovogal, Olobintin, Dijodyl, Gelatine (sterilised), Neo-Hexal, Idrabaryum, Mergal, Yohydrol, Salipyrene, etc.

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Telephone : Franklin 6007 (3 lines) Telegrams : "Dederich London."

It will pay you to stock them!

When the public demand goods bearing a specified name the wide-awake retailer prepares to meet that demand and so reap the benefits which follow.

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Write to-day for full particulars to :

THE IGLODINE CO., LTD. - Newcastle-on-Tyne. 1

*Why not sell your
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HEALTH SALTS

WE have about 20 different designs on which we will print your name and address, in addition to several enamelled tins. ∴ Send for particulars.

BLYTON, ASTLEY & CO.

Telegrams:
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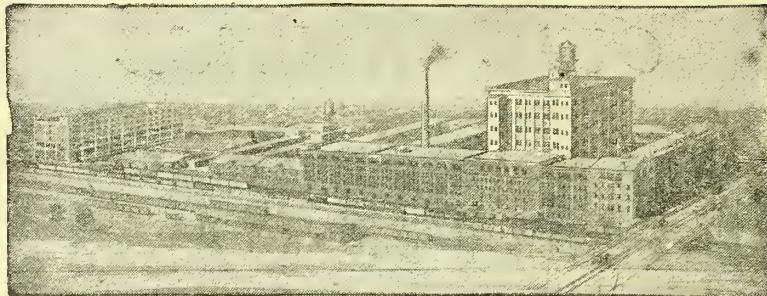
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We can serve you—
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For nearly seventy years we have catered to chemists and physicians in practically every part of the world. During that time we have had ample opportunity to learn the many details and intricacies of export trade. A few of our Specialties:

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A BRINY SALT WHICH SAVOURS OF THE SEA.

"Billozone" gives Instant Ease to Tender Feet.

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SHOULD STOCK

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THE GOLD MEDAL HEALTH DRINK.

Quick Seller. Big Profits. Over 40 years' Reputation.
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Reduced Price List can be had on application.

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WHOLESALE PRICES.

BEECHAM'S PILLS:

1s. 3d. size	...	10s. 6d. per doz. net.
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5s. 0d. (new size)	...	50s. 0d.

contains double the quantity of 3s. box

Minimum quantity £5 value.

Packages Free.

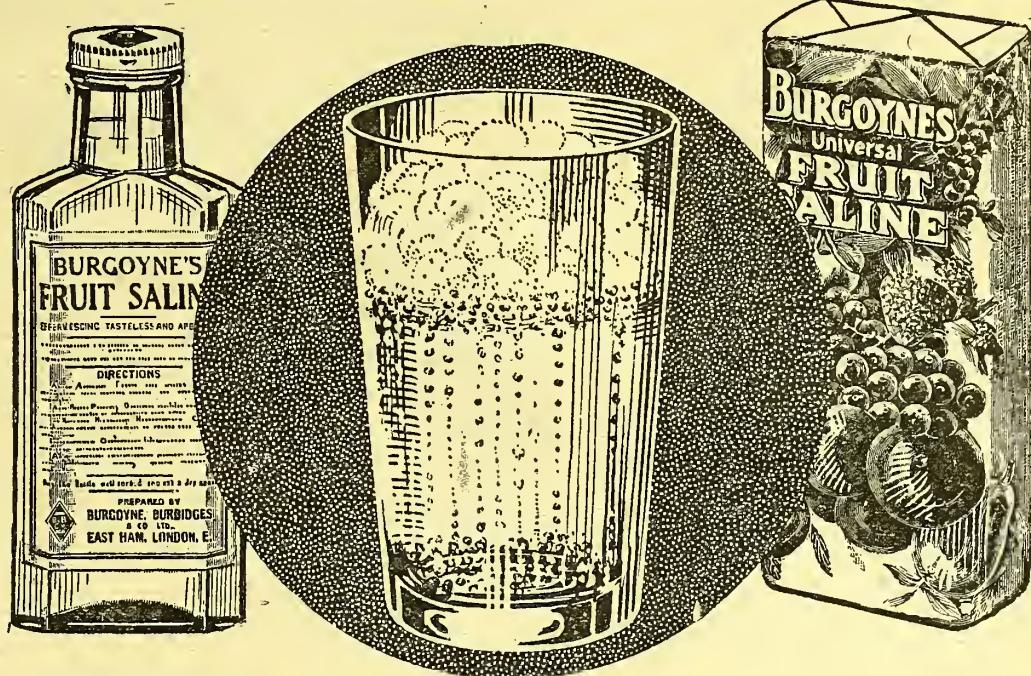
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1s. 3d. size	...	10s. 6d. per doz. net.
3s. 0d. "	...	26s. 6d. "

Carriage Paid.

Cash with Order.

Cheques to be made payable to THOMAS BEECHAM, and crossed "Westminster Bank, Ltd., St. Helens."



Because it does two things supremely well

a large number of chemists are to-day taking great interest in this Fruit Saline.

Of course, like all other Fruit Salines, Burgoyne's is a pleasant effervescent beverage possessing cooling and thirst quenching properties. Also, like other Fruit Salines,

Burgoyne's acts as a gentle aperient, purifies the blood and corrects over indulgence. In these respects Burgoyne's is *at least* the equal of any Fruit Saline on the market.

BURGOYNE'S Universal FRUIT SALINE

But two things Burgoyne's Fruit Saline does *supremely* well. Firstly, it is particularly effectual in cases of Biliousness. Quickly, surely and safely all signs of this very unpleasant condition disappear.

Secondly, Burgoyne's Fruit Saline banishes, with equal speed, equal infallibility and equal safety, sick headaches that are due to constipation or defective action of the liver.

It is for these reasons that wherever it is introduced Burgoyne's Fruit Saline (which is the outcome of 184 years' experience as Manufacturing Chemists) has been extraordinarily well received. Without doubt it is one of the finest products of its kind before the public and is a Saline which pharmacists may recommend with the greatest confidence.

If you do not already stock this brand, you are invited to write for a generous sample and trade prices.

Sold in two Standard sizes retailing at 1/3 and 2/3.

[*Minature size (as samples only) retail at 6d.*]

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BRAND'S ESSENCE

of Beef, Mutton or Chicken consists solely of the juice of the finest meats, prepared with the greatest care under the most hygienic conditions.

Essential in the Sick Room.

Sold by all Chemists and Stores.

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DIRECT SUPPLIES

CASEIN

- White Soluble Flœcculent "CASUMEN" containing nearly 90% pure protein. In bulk or $\frac{1}{2}$ -lb. or $\frac{3}{4}$ -lb. packets or tins.
- Fine White Casein. Bulk only.

MODIFIED

DRIED FULL CREAM MILK

"DORSELLA"

Supplied in bulk. In 1-lb. packets. Or in decorated tins containing 5, 10 and 16 oz. with literature.

(This is the finest form of milk food for infants and invalids and can be used for babies who cannot be breast fed from birth. Composition and bacteriological purity approved by doctors and nurses. 1-lb. airtight tins can be supplied to retail at 2/6.)

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ESTD. 1879.

Eight factories in Dorset, Somerset and Wilts.

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Sells freely and readily
PROFIT 50%
ON OUTLAY

An infallible remedy for
GOUT, RHEUMATISM, ECZEMA and SKIN AFFECTIONS.

P.A.T.A.

4 oz. tins 1/-, 8/- doz. net.
8 oz. " 1/9, 14/- " "
Bottles 2/6, 20/- " "

Attractive advertising matter supplied on application.

SOLD EVERYWHERE.

Manufactured by
LOFTHOUSE & SALTMER LTD.
HULL

Maclean's Revalenta

*The Perfect Food for
Children, Adults and Invalids*

This gold medal food has the
reputation of over half-a-century.

Retail Prices ... 2/-, 4/- and 11/-

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(Regd.)

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Write for particulars, when Prices and Patterns will be forwarded.

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The Famous Natural Aperient Water.

Hunyadi János

An extensive propaganda is being carried out among the Medical Profession and the general public which is resulting in a largely increased demand for this world-renowned NATURAL Aperient Water.

Prices to the Trade :

24/- per doz. large bottles - or 48/- per case of 25

18/- " " small " - or 72/- " " 50

Net, Carriage Paid.

Minimum Retail Prices :

2/6 per large bottle.

2/- per small bottle.

Hunyadi János has for more than fifty years been recognised as the best of the NATURAL mineral waters containing sulphate of soda and sulphate of magnesia. Its laxative action is sure but gentle; it stimulates the liver and cleanses the blood.



Many of your customers who already know its value will be glad to get it again. Others will want to buy it on the recommendation of their doctors, who constantly prescribe HUNYADI in preference to ordinary aperients therefore it pays Traders to keep a stock of this famous NATURAL Aperient Water.

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INGRAM & ROYLE, LTD.
BANGOR WHARF

45 BELVEDERE ROAD

19 South John Street, Liverpool

LONDON, S.E.1

Bath Bridge, Bristol

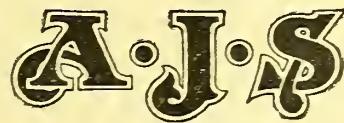
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Sole Importer of a Very Highly Sensitive Natural Wireless Crystal would like to communicate with a large Wholesale Druggists' Sundries House, who would pack and distribute under their own trade name or mark. This should be an excellent proposition for Chemists.

APPLY IN FIRST INSTANCE TO
"S. W. X.", 61/917, OFFICE OF THIS PAPER.

DURA
(Veuve Dumas—Reeve Angel)
PHARMACEUTICAL
FILTER PAPERS
Pure Cotton Cellulose.

H. REEVE ANGEL & CO. LTD.
9 BRIDEWELL PLACE, LONDON, E.C.4.



'THE HALL-MARK OF RADIO PERFECTION'

PROFIT-BEARING LINES THAT PHARMACISTS SHOULD KNOW ABOUT

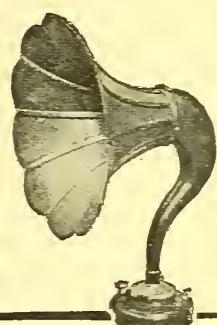
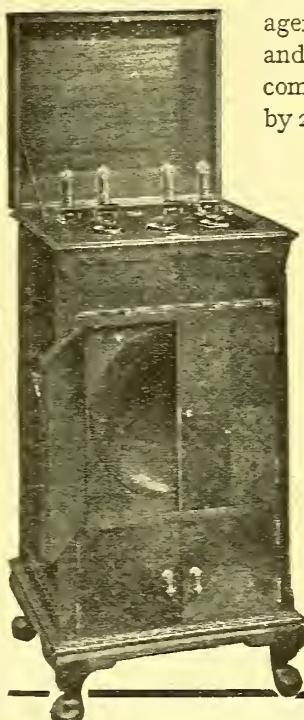
No Pharmacist alive to the possibilities of to-day can afford to ignore Wireless. As a profitable and easily-handled sideline it is unsurpassed.

TWO EXAMPLES:
The A.J.S. Pedestal Cabinet represents the highest standard achieved in Wireless Receiving Sets. Entirely self-contained. Complete with 4-valve Receiver, 4 Valves, L.T. & double capacity H.T. Batteries, Special A.J.S. Loud Speaker, and all Accessories for instant use. In Mahogany or Oak, 80 guineas, retail.

The A.J.S. Loud Speaker has an accurately proportioned non-resonant horn giving correct acoustic properties and ensuring purity of tone. With Metal Horn, £2 15s., retail, Oak or Mahogany Horn, £5 10s., retail.

In the radio business, however, it is essential to deal only in trustworthy goods—British in origin. A.J.S. Wireless goods are British to the core, and enjoy a name for reliability rivalled by none. Secure this valuable agency for your district, and your turnover can comfortably be increased by 25% upwards.

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WIRELESS BRANCH, WOLVERHAMPTON

'Phone: 1550: Wireless Call Sign: 5B.L.: Grams: "Reception, Wolverhampton."

A
**PHILIP JOSEPHS
& SONS LTD.**

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QUICKLY EARNS
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Try One!

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UPRIGHT CENTRE CASES, WALL CASES,
GLASS COUNTERS, MIRRORS
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SHOW STANDS, DRAWERS, DESKS
 CHECK TILLS, &c. **Immense Stock.**
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Tubes, etc., are manufactured to Customers' own specification

"PAZO"
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PILL BOXES
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BRITISH MADE

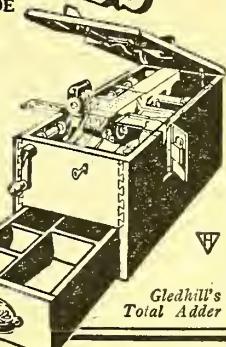
TOTAL ADDING REGISTER
Safeguards your Profits.

It gives a dated receipt showing amount of sale in bold printed figures and a duplicate of each item is retained in the register.

For an account paid customer's name is written in line with the printed amount. The Total Adder shows the amount of cash received at any moment. Leakage is thus prevented and you get a double check on every penny.

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THE days when contracts for supplies to public bodies—Government, Municipalities, Urban District Councils, or otherwise—were secured by favour have, happily, gone for ever. Nowadays, competition in the open market ensures that the lowest estimate, consistent with quality, for drugs, disinfectants, chemicals, druggists' sundries, surgical appliances, or whatever it may be, invariably secures the order.

But the men who are responsible for the quality and price to their respective Boards are experts and must necessarily follow the markets very closely, and that is one reason why

THE CHEMIST & DRUGGIST

is subscribed for regularly, and its advertising and editorial pages studied closely week by week by the heads of the Contract and Purchasing Departments at The Admiralty, The War Office, The India Office, The Navy, Army, and Air Force Institutes, The Office of the Crown Agents for the Colonies, The Government Public Health Departments, &c.

Enormous quantities of pharmaceutical, medical and surgical supplies are purchased annually for use in hospitals, infirmaries, asylums, dispensaries, prisons, &c., and in the Health Departments of municipalities and other local Government authorities. In this connection, those who direct or influence the buying and distribution of all such supplies find a weekly perusal of *The Chemist and Druggist* imperative.

For all particulars regarding available advertising space, special positions, coloured insets, etc., write to

THE PUBLISHER, THE CHEMIST AND DRUGGIST,
42 CANNON STREET, LONDON, E.C. 4.

Branch Offices:
MANCHESTER, ENGLAND.
SYDNEY AND MELBOURNE,
AUSTRALIA.

For our subscribers include Medical Officers of Health, Superintendents, Governors, Stewards, Pharmacists, and Directors of the largest and most important Public Health Institutions in all parts of the United Kingdom. The list is much too long to tabulate, but in the metropolitan area alone 40 such institutions subscribe regularly, while in the larger provincial cities, such as Manchester, Liverpool, Birmingham, Glasgow, &c., the number of hospitals, infirmaries, asylums, &c., receiving *The Chemist and Druggist* varies from five to seven according to the size of the place.

Among our subscribers abroad are Directors of Administrative, Trading and Public Health Departments in—

Accra, Gold Coast, West Africa	Lisbon, Portugal
Alexandria, Egypt	Madras, India
Basle, Switzerland	Malta
Beyrouth, Syria	Manila, Philippine Islands
Baghdad, Mesopotamia	Matsumoto, Japan
Bangalore, India	Mombasa, British East Africa
Belgrade, Serbia	Montreal, Canada
Bombay, India	Nairobi, British East Africa
Cairo, Egypt	Otacamund, Madras, India
Calcutta, India	Ottawa, Canada
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Entebbe, Uganda	Sandakan, British North Borneo
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Easy to sell!



Easy to sell because easy to use—and well advertised

ALL women who need a hat dye insist that it shall be easy to apply and that it shall produce perfect results. The one is useless without the other. And Luton Straw Hat Dyes conform to both these essentials of the perfect dye. Moreover the colours are true and as fast as it is possible to make them.

Luton Straw Hat Dye is a Whitaker product and therefore well-known to all pharmacists. Sales are easy and the demand is created through advertisements in the leading newspapers and periodicals of the country.

“AURORAL” DYES

COLD WATER

Recognised as the finest cold-water dyes in the world for delicate and costly fabrics. Good results obtained even at the first trial. A certain seller.

‘LUTON’ FABRIC DYES

HOT WATER

The best hot-water dyes for all materials, giving perfect results with the minimum of trouble. As with all other Whitaker products, they show a good profit.

VELT

A cleaning preparation for removing stains, grease, dirt, etc., from clothing, upholstery, curtains, etc., and renovating them.

VELT is a non-inflammable liquid and is supplied in screw tins of which three dozens are contained in an attractive outer. A new Whitaker product but nevertheless one which is already selling well.

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THE CHEMIST AND DRUGGIST



SUPPLEMENT

42 CANNON ST.
LONDON E.C.4

MARCH 28, 1925.

This Supplement is inserted in every copy of The Chemist & Druggist.

THE CHEMIST AND DRUGGIST SUPPLEMENT

REVISED ADVERTISEMENT TARIFF.

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3.—CRYSTAL PALACE (within easy distance of).—Family Retail and Dispensing Business with Kodak Agency; established 25 years; net profit about £700 per annum; large double-fronted shop; estimated value of stock and fixtures between £900 and £1,000; good living accommodation; bath (H. & C.); rent, £33 per annum; price, £1,500.

4.—ESSEX (Suburban).—Drug Store, situate in densely populated district; returns, under management, £21 weekly; under qualified supervision an opening presents to materially increase the turnover; lock-up shop, well fitted and fully stocked; rent moderate; 21 years' lease; price £650 or near offer.

5.—CAMBERWELL GREEN.—Cash Retail Business, with N.H.I. Dispensing; returns, about £33 weekly, increasing; single-fronted shop fitted in mahogany; new lease; scope for increased trading; price, £850.

6.—LONDON, S.E. (Main Road).—Cash Retail Business; mixed trade; position good; returns, under manager, £3,374; gross profit, 34 per cent.; books kept by Chartered Accountant; large double-fronted shop; six-roomed house; long lease; further details on application.

7.—HERTFORDSHIRE.—General Retail and Dispensing Business; returns, last year, £1,100, with scope for considerable increase; gross profit, 40 per cent.; double-fronted shop, handsomely fitted in mahogany, with good working stock; 20 years' lease; price to be arranged.

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BUSINESSES FOR DISPOSAL.

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2.—**CHESTER**.—Seaside town; old-established, well-fitted Pharmacy; Family and passing trade; good Photo, Optics and Fancy; stock and fittings at valuation; property can be purchased for £2,000, of which £1,500 can be obtained on mortgage; ground rent, £4 13s. per annum. Further particulars on application. (158)

3.—**PROGRESSIVE LONDON SUBURB**.—Leasehold Premises suitable for Chemist's business; held on long lease at £165 per annum; let off £114 per annum. Lessee would entertain partnership with Pharmacist.

4.—**LIVERPOOL**.—Well-appointed General Retail and Dispensing Business, in middle-class locality; good passing trade; returns, £40 p.w.; 10 years' lease, at £100 p.a. for first 5 years, rising to £120 p.a.; or freehold property could be purchased; fuller particulars on application. (150)

5.—**SOMERSET**.—Old-established Business, in country town; returns, £22 p.w.; 7 years' lease, at £40 p.a.; lock-up double-fronted shop; price £1,200, or offer. (144)

6.—**S. DEVON**.—Good-class ready-money Business in important town; returns, £30 p.w.; Kodak, N.H.I., etc.; double-fronted shop, with 8-roomed house; price, including freehold property, £2,600. (134)

7.—**SOUTH DEVON**.—Very old-established Business in residential district of busy town; returns, £34 p.w.; rent, £90; lease to be arranged; double-fronted, well-fitted shop and house with 7 rooms; side entrance, store, etc.; price £1,450. (154)

8.—**ESSEX**.—Popular seaside resort; prominent corner shop, with 7-roomed house, in main road; 14 years' lease, at £200 p.a.; returns, £1,800 p.a.; price £2,000, or near offer; terms, part down and balance by arrangement. (156)

9.—**SOUTH COAST (Health Resort)**.—Good-class Chemist and Druggist, in best part of the town; new building; attractive shop fitted in oak; returns, about £35 p.w.; Kodak, N.H.I., etc.; dwelling accommodation with separate entrance. Price £1,500—property could be acquired. Fuller particulars on application. (125)

10.—**LONDON, W.1.**.—Good Dispensing Business in populous suburb; 8 years' lease at £150 per annum; price for goodwill, fixtures and fittings £400, or near offer; stock at valuation, or, if preferred, stock can be removed. (114)

11.—**LEEDS**.—Unique offer for qualified man; turnover £15, as a Druggist sole monopoly of a 2-mile radius with 3,000 population; property also for Sale, about £1,000 in all; part premises sublet at 8s. 6d. p.w.; small living accommodation with premises; offers invited. Fuller particulars on application. (160)

12.—**NEAR DOVER**.—Small Lock-up Retail Dispensing, Photographic and Toilet Business; conveniently fitted and well stocked; lease to January, 1927, at £26 per annum. Immediate offer required. Full particulars on application.

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1.—**HOME COUNTY**.—Old-established light Country Retail; no heavy or mixed trade; returns, £3,000; net profit, £600 to £700; good house; long lease; moderate rent; heavily stocked; price, £2,000; personally recommended.

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3.—**KENT** (25 miles cut).—Quick cash Retail Business, in fine position, entirely under manager; present returns about £2,700, stands to do £4,000; modern Pharmacy (lock-up); fully stocked; long valuable lease; price, £1,700; books properly kept and audited.

4.—**CARDIFF**.—Quick Cash Retail, in busy main road; good residential district; returns, £1,400, under manager; plenty of scope; rent, £65; modern Pharmacy (lock-up); well stocked; fully stocked; price, £950; £400 can remain.

5.—**ESSEX COAST**.—Good-class Retail and Dispensing Business in rapidly growing district; returns average £30 weekly; plenty of scope; bold corner Pharmacy (lock-up); well stocked; price, £900; worth seeing.

6.—**LONDON (Surrey Suburb)**.—Well-established light Retail with Kodak Agency; returns, £2,500, under manager; gross profits, £984; books audited; main road position; modern pharmacy, house attached; excellent stock; price £1,850; worth attention.

7.—**LONDON, N.** (Few miles out).—Very profitable Cash Retail with Prescribing and N.H.I.; returns nearly £70 weekly; net profit over £1,000; valuable lease; low rental; price, about £2,500; personally recommended.

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DERBYSHIRE.—Old-established middle-class Business in small town; Wine Licence, Kodak Agency; very convenient premises, good house attached; lease; returns four years average £2,700; price valuation and moderate goodwill. 24/17, Office of this Paper.

GLAMORGAN.—For Sale, well fitted Pharmacy; rent £60 a year; seven years' lease (premises can be purchased), £650, with fixtures and fittings £300, and stock at valuation; a splendid opportunity for a young Pharmacist; payments can be spread over a period of six months; good reasons for disposal. 25/13, Office of this Paper.

GRIMSBY.—Excellent old-established Chemist's Business, with splendid living accommodation, garden, garage, etc.; returns £2,750 yearly; very profitable trade; beautifully fitted and thoroughly up-to-date; price £2,000. Also, Chemist's Lock-up, near Port Talbot; returns £16 weekly; low rent; suit single qualified admirably; price £350; valid reasons for disposal. Brierley, Chemists' Valuer, 135 Queen Street, Newton Heath, Manchester.

KENYA COLONY.—Old-established English Pharmacy for disposal, with or without branch; turnover, £1,200 per month; in addition, branch returns £400 to £450 per month, increasing; healthy climate, very best position; price, about £10,000; valuation terms arranged or partnership entertained. Apply, Berdoe & Fish, Chemists' Valuers, 41 Argyle Square, King's Cross, W.C.1.

LANCASHIRE.—Wholesale Drug and Patent Medicine Business for Sale; old-established, progressive; will accept low price; owner retiring; good prospects for active man. 30/15, Office of this Paper.

LONDON, S.W.—Newly-established Business; returns last year over £1,600; Kodak Agency; lock-up shop, rent £55, rising to £65; lease 17 years; beautifully fitted in oak; entirely under management since opened; price; lease and goodwill, £400; fixtures, £500; stock at valuation, about £450. Cash buyers only apply. 30/23, Office of this Paper.

MANCHESTER.—£300 cash will purchase outright modern, well-fitted, up-to-date Drug Store; main road; excellent opening for Qualified Lady or Gent; lock-up, electric light, and all conveniences; long lease; no ingoing; only genuine cash buyer entertained; a real bargain for a quick buyer. P. Mellor, c/o 162 Elizabeth Street, Cheetham, Manchester.

MANCHESTER (large manufacturing town near).—Old-established Light Retail and N.H.I. for sale owing to death of proprietor, who was aged; on main road, residential district, prominent corner shop, with house attached; rent and rates, £75; lease granted; turnover, £1,000; great scope for increase by young man; price, £700, or near offer. Also, Lock-up Drug Store, near Sheffield; price £400, or without stock £250; rent, 25s. clear. Marsden, 44 Sholebroke View, Leeds.

MONMOUTHSHIRE (Healthy Market Town).—Family Business, with good Farming and Optical connection; returns £30 per week; rent and rates, £90 per annum; very great scope; no living accommodation; price for a quick sale, value of stock and fixtures, plus small sum for lease, which can be renewed. Write 26/7, Office of this Paper.

OLDHAM.—Established Family and Dispensing Business, returning £25 weekly; N.H.I. dispensing fees £4 weekly; splendid house; £850 quickly. Also choice of two Chemists' Businesses, lock-up, Manchester, returning £20 and £15 weekly, lease, easy rental, electric light; price, £550 and £375 respectively. Brierley, Chemists' Valuer, 135 Queen Street, Newton Heath, Manchester.

CHEMIST and Photographic Dealer's Business, in prominent town in North-East of Scotland; main thoroughfare; splendid prospects for development; lease, longer can be arranged if desired. Further particulars from 61/925, Office of this Paper.

CHEMIST'S Business in good-class neighbourhood, London suburb; lock-up shop, on long favourable lease; capable of great expansion; splendid opportunity for capable man; owner going abroad; price, £450, or near offer. 30/10, Office of this Paper.

DRUG STORES.—Fine little Business; important main road, Birmingham; substantial turnover; well stocked; rent £1 weekly; good house attached, and garden; all as going concern, with immediate possession, £500; ample scope N.H.I. Apply, S. E. Harris, 8 Newhall Street, Birmingham.

MESSRS. J. A. & J. COPELAND, Accountants, 42 Stokenchurch Street, S.W.6, have been instructed to offer for sale an old-established Retail Cash Business with N.H.I. in S.E. London district, with excellent living accommodation, on long lease; the price asked is £1,000, plus S.A.V. Please write to above for appointment to view.

QUICK-ESTABLISHED Country Business, situated on East Coast; N.H.I. Dispensing, Prescribing, and Kodak Agency, etc.; very easily worked; turnover £2,000 per annum; no opposition; splendid opportunity for Optics; expensas very low; please give references in first letter. 27/30, Office of this Paper.

QUICK-ESTABLISHED Chemist's Business—healthy Manchester growing district, near city, with good house and garden; mahogany fixtures; splendid opening for N.H.I., Dispensing and Photography; low rent and rates; plenty of scope for increase; will accept reasonable offer. For reply enclose stamped envelope preferred to 247/21, Office of this Paper.

QUICKING to decease of proprietor. Drug Store and Stationery business, established 1889, for sale by tender; recently been fitted to deal with Dispensing; situate in good central position; best offer over £1,000 accepted; particulars and order to view will only be supplied to persons furnishing bankers' references; no agents. All inquiries to Mr. Cooke, High Street, Walsall Wood.

WHOLESALE Chemist's Business for sale; started five years ago; just getting well established on firm foundation and capable of considerable development; would be sold on reasonable terms to quick purchaser, owing to bad health. Write, "Z.F. 122," c/o Deacons, Leadenhall Street, E.C.3.

TENDERS.

GUY'S HOSPITAL, S.E.—Drugs and Surgical Dressings. The House Committee invite Tenders for Surgical and Antiseptic Dressings, also for Drugs for immediate and future delivery. A list of these, with further particulars and form of Tender, may be obtained on application to the Superintendent's Office. Tenders duly sealed are to be returned to the Superintendent's Office not later than April 1, 1925.

AGENCIES.

SOUTH WALES.—Agent, already on this territory, who desires an additional good line; good commission offered; (this line is sold throughout Britain); give particulars of journey; references desired. Apply 61/923, Office of this Paper.

FIVE Agents required in all districts, calling upon Wholesale Chemists, Grocers, Oilmen, etc., to push the sales of well-known brands of Fly-catchers at extremely competitive prices; only those with good connections need apply. 30/4, Office of this Paper.

FRENCH Manufacturer of Alum Tablets is anxious to appoint Agent for Great Britain. Apply, with references, Office Commercial Français, 111 Queen Victoria Street, E.C.4.

SOLE Agency required by well-organised firm with live travellers and good connections in the United Kingdom and Colonies; Drugs, Proprietary and Allied products; only first-class firms and those prepared to advertise proprietaries considered. P.C.B. 65/5, Office of this Paper.

WANTED, one or two good Agencies for a Commercial House, covering Northern and Southern Ireland three times per year by motor, having a big connection amongst Chemists and Grocers. Reply with terms to "Alfa," 16/23, Office of this Paper.

WANTED, Expert Men accustomed to handling Medicinal Products, to introduce in London and throughout Great Britain and Ireland two new and unique preparations; only those with a connection need apply. 61/931, Office of this Paper.

WHOLESALE Chemist and Druggist.—Wanted, in several districts, Agents already calling upon Wholesale and Manufacturing Chemists and Druggists, free to accept additional representation. Box L. 25, Lee & Nightingale, Advt. Offices, Liverpool.

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CHEMIST'S or Druggist's Shop required immediately for cash up to about £600; must show good results and be open to improvement under expert management; if more, part should remain at interest for a limited period. "Chemist," Frances House, 70 Brooksbys Walk, E.9.

PRELIMINARY Notice.—Advertiser seeks a Business in July or August producing a minimum net annual profit of £1,500; the Midlands preferred; cash waiting. Vendors please send particulars, in complete confidence, to 28/40, Office of this Paper.

WANTED, good-class Retail Chemist Business at one of the larger South Coast resorts; gross receipt, £5,000 to £4,000 per annum. 29/12, Office of this Paper.

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BOURNEMOUTH.—Prominent corner position on main road; detached house, 2 rec., 7 bed, bath, and offices; admirably suited for conversion into business premises; for sale freehold. Full particulars, apply Hankinsons, Estate Agents, The Square, Bournemouth. (C. 504.)

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MANUFACTURING and Analytical Chemists, having business premises, desire co-operation of manufacturing chemist or business man with capital to develop a special marketed product, etc. "Z.D. 207," c/o Deacons, Leadenhall Street, London, E.C.3.

SHOP TO LET.

SHOP (16 ft. x 40 ft. depth) to be Let in Highgate; prosperous and growing London suburb; especially suitable for high-class Chemist; rent £200 exclusive, and moderate sum required for lease, etc. Write Box 294, c/o Mather & Crowther, Ltd., 10 New Bridge Street, E.C.4.

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IN RAPIDLY GROWING RESIDENTIAL DISTRICT.

FEW MILES BOURNEMOUTH.
NO CHEMIST IN DISTRICT.

COMMANDING Corner Shop, with excellent Flat over, to Let on Lease, £150 per annum. A real opportunity.—Apply, HANKINSONS, Estate Agents, BOURNEMOUTH.

TO BE LET, Shop in busy West-End thoroughfare; suitable for Chemist; no premium. Apply 61/919, Office of this Paper.

PARTNERSHIPS.

PARTNERSHIP.—Young man, experienced in the Retail Drug trade, requires Partnership in an established business, London district; capital available. P.C.B. 64/24, Office of this Paper.

SITUATIONS OPEN.

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BIRMINGHAM.—Qualified Manager required for business situate in industrial suburb; brisk, light retail trade, with N.H.I. and fair amount of Photographic; splendid opening for really smart man; give all particulars and state when at liberty. 27/26, Office of this Paper.

BRISTOL.—Junior Assistant required; young, good address, accustomed to good-class business, accurate Dispenser; state age, experience and salary required. Clark and Wheeler, 71 Queen's Road, Bristol.

ERITH-ON-THAMES.—Manager, qualified, for quick Cash trade, with Photographic and Wireless, in industrial district near London; living accommodation over shop. Please give full particulars as to experience, height, etc., enclosing photo (to be returned). W. Reeson, 80 High Street, Erith, Kent.

FLEET.—Qualified Manager immediately; good Counterman and Window-dresser; thoroughly experienced in all branches. Enclose photo and references, stating salary required, to Allen & Lloyd, 21 Station Road, Aldershot.

HUYTON (near Liverpool).—A capable Unqualified Assistant or Junior for good-class Retail and Dispensing business, with Photography. Please give full particulars to J. Gregory, Chemist, Huyton.

LONDON, CENTRAL.—Outdoors, Assistant (Male) required; good Dispenser and Counterman. Apply by letter, giving full particulars of experience and salary required, to 28/7, Office of this Paper.

LONDON, N.—Qualified Assistant wanted about April 6; permanent; outdoors; a quick and accurate Dispenser and good Counterman, with knowledge of Photography. Apply, stating experience, age, height and salary required. F. J. Sandberg, 22 Regent's Parade, North Finchley, N.12.

LONDON, N.W.—Qualified Manager (preferably married) required for a business doing a light retail counter trade; interest in profits offered to smart, energetic man. Give age, experience, and salary required, and when at liberty, to 27/260, Office of this Paper.

LONDON, N.W.—Assistant required, experienced in good-class Retail and Dispensing; Dispensing knowledge essential; young Qualified man preferred. State experience, age, height and salary required to 29/25, Office of this Paper.

LONDON, S.W.—Part-time Assistant, with good experience of Counter and Dispensing; evenings and Saturdays. Apply, with full particulars and salary required, to H. G. Green, 182 Upper Richmond Road, East Sheen, S.W.14.

LONDON, S.W.—Male Assistant for high-class Retail and Dispensing; age 23-30; must be energetic and competent. State full detailed experience, height, salary required and enclose photo to 29/18, Office of this Paper.

LONDON, W.—Assistant (Male), outdoors, qualified preferred, not over 40, required for good-class Retail and Dispensing business; must be reliable Dispenser and have knowledge of Photography. Please apply with full particulars as to age, experience and salary required, to 29/19, Office of this Paper.

LONDON, W. (Near Baker Street).—Assistant Junior for good-class Dispensing and Counter trade; also Qualified Relief each Thursday, 5 till 8 and alternate Sunday, 6 till 8. State experience and salary required. Goodall, 182 Ealing Road, Wembley.

LONDON, W.C.—Outdoors, Lady Assistant required shortly; must have served apprenticeship in a Pharmacy, be an experienced Dispenser and Counterwoman. Apply personally or by letter, giving fullest particulars of experience and salary required. Frizell & Co., 49 New Oxford Street, W.C.1.

MANCHESTER.—Required immediately. Qualified Assistant for Dispensing and quick Counter business; knowledge of Photographic essential. Apply, stating experience, age, and salary required, to "Chemist," c/o J. Woolley, Sons & Co., Ltd., Victoria Bridge, Manchester.

NEWCASTLE.—Assistant wanted, under 30, unqualified, for good-class business; commence about April 20; quick, reliable and accurate, with knowledge of Photography; easy hours; no Insurance work. Full particulars, stating age, reference, salary, Darney, 132 Manor House Road, Jesmond, Newcastle-on-Tyne.

NORTH MIDDLESEX HOSPITAL, EDMONTON, N.18.—Assistant Dispenser (Lady) required to commence duty 1st May, hours 9-5 daily, except Sundays; salary £120 per annum, rising £10 annually to £160 per annum. Candidates should have had experience of Hospital and especially out-patient work. The lady appointed must possess the qualifications required by the Ministry of Health. Applications, in writing, should be sent to the Clerk to the Guardians, Bridport Road, Edmonton.

PRESTON.—Qualified Assistant wanted immediately. Apply John MacGavin & Son, 110 Friargate, Preston, Lancs.

RADCLIFFE, Manchester.—J. T. Smith & Son require a Qualified Assistant. State usual particulars and salary required.

RYAL MANCHESTER CHILDREN'S HOSPITAL, PENDBURY, and Out-Patients' Department, Gartside Street, Manchester.—Second Assistant Dispenser required; must be qualified; salary £120 per annum. Form of application may be obtained from the undersigned, W. M. Humphry, Secretary.

SHEFFIELD.—Locum required for few days in Easter Week. Please send usual particulars in first letter. 30/22, Office of this Paper.

SOUTH KENSINGTON.—Young Qualified Assistant; gentlemanly; accustomed to good-class Dispensing and Retail business, with Photography; good Counterman and Window-dresser essential; applications not answered in three days declined with thanks. W. B. Falding (P. Bolton), 5 Sussex Place, South Kensington, S.W.7.

WARWICKSHIRE.—Smart Unqualified Assistant or Junior wanted immediately, with experience of Developing, Printing, Enlarging and Dispensing; permanency for suitable man; please forward particulars of experience, state age, height and salary required, and forward photograph if possible (to be returned). 28/35, Office of this Paper.

ASSISTANT (male), unqualified, about 25, wanted early in April for high-class Retail and Dispensing; must have had good Dispensing experience; please give full particulars and state salary required (outdoors). H. & W. Northey, 4 Castle Hill, Maidenhead.

ASSISTANT in Surgical Instrument business; good character indispensable; state age, experience, and wages expected. Reply 27/25, Office of this Paper.

ASSISTANT required for Family Store and Photographic business; good references essential. Durbins Drug Stores, 50 Broadway, Wimbledon.

ASSISTANT required for an East London Branch; N.H.I. Dispensing; a lady would be considered; must be experienced and strictly accurate. State full particulars of experience and salary required. 29/32, Office of this Paper.

ASSISTANT, with good experience, required for high-class business; young, qualified man preferred. Send full particulars to Nathaniel Smith & Co., 373 High Street, Cheltenham.

ASSISTANT (lady); qualified; April 27 (about); Dispensing, Stock and Counter (no heavy trade); pleasant town near Brighton; easy hours; outdoors. Salary and full particulars to L. H., 29/9, Office of this Paper.

CAPABLE, young Qualified Assistant wanted; Retail, Agricultural and Wholesale (Packed Goods); one with a little capital preferred, with view to early succession on easy terms. Rollin, Chemist, Durham.

COMPETENT Assistant, Lady preferred, wanted as Saleswoman for Photographic department Chemist's business; must have good knowledge of photo materials, be smart in the handling and selling of good-class stuff; no D. & P. work required. Apply, with photo, stating age, experience, references and salary, Collin, Chemist, The Walk, Norwich.

COMPETENT Junior wanted early in April (Male); good Dispensing experience essential. Please give full particulars as to previous engagements, salary required, and when disengaged, stating age, height, and enclosing photo, to "A. C. O." c/o Messrs. A. C. Olds & Co., Ltd., Chemists, Bath.

DISPENSER required by Doctor in N.E. London; Hall qualifications and previous experience essential. Apply, giving the usual particulars, also copies of references (which will be returned), to 61/916, Office of this Paper.

EXPERIENCED Qualified and Unqualified Retail Chemist Assistants required. Apply by letter to Boots Pure Drug Co., Ltd., Station Street, Nottingham.

JUNIOR Assistant wanted (outdoor), age about 20. Unqualified, for Counter and Stock; state age, experience, height and salary required; hours 8.30 to 6, Thursdays 1 o'clock, Saturdays 8 o'clock; permanency to suitable applicant. W. Pattinson, Chemist, Hexham-on-Tyne.

JUNIOR Assistant or Improver required for Counter, Dispensing and Stock. Apply Marshall & Co., 5 Pimlico Road, Ebury Bridge, S.W.1.

LADY Assistant; must be accurate Dispenser and have good knowledge of Photography and Retail; outdoors; qualification not essential but preferred. Apply, stating full particulars as to experience, age, height and salary required, photo if possible. L. E. Wills, Pharmaceutical Chemist, Falmouth.

LADY Assistant, for good-class suburban business, chiefly Counter; smart appearance, pleasing manner and tactful Salesmanship essential. Full experience, age, salary, to Matthews & Son, 722 High Road, Leytonstone, Essex.

MALE Assistant required in May; age under 30; outdoors; minor qualification not essential; must have had experience in high-class Dispensing and Counter work. Apply, stating salary required, and full particulars, with photograph if possible, Pugh, Chemist, Buxton.

MALE Assistant, 20-25, for modern Pharmacy; good knowledge of Dispensing and Photographic (practical) essential; fullest particulars and photo (returned), when disengaged, in first letter. Fry, 137 Albert Road, Southsea.

MANAGER, qualified, for Branch; must be a good Salesman, energetic and courteous; one with Store experience preferred; unquestionable references essential; progressive salary; permanency for suitable man. State salary, etc., first letter, to Evans, The Pharmacy, Penrhineber, Glamorganshire.

MANAGER wanted for branch business; young; knowledge of Photography. Full particulars, experience, salary, etc., to 28/54, Office of this Paper.

MANAGER, qualified, for London, E.; must be energetic and business-like for position offering good scope; wage and commission; two assistants kept. Please give full particulars, wage required, and when at liberty. Those unanswered within a week declined with thanks. 29/3, Office of this Paper.

PHOTOGRAPHIC Supplies and Optical Department.—Assistant wanted; please give particulars as to age, height, experience, references, when disengaged, and salary required, in first letter, or apply personally; applicants unanswered in four days respectfully declined. Bishop & Vincent, 460 Holloway Road, N.7.

PHOTOGRAPHIC Department.—Young Ladies required for D. & P. invoice making, etc.; must have had good experience, and able to turn out good work; full particulars with photo and reference; interview necessary. Bailey, Pharmacist, Blackheath, S.E.3.

QUALIFIED Lady Assistant; mainly Dispensing, but must be accustomed to good-class Counter trade; some knowledge of Photography desirable; outdoors. Full particulars to Mr. A. S. Edwards, c/o S. Edwards & Son, Chemists, Godalming, Surrey.

QUALIFIED Assistant (male) wanted; 25; well up in Dispensing; outdoor; permanency. Pope Roach & Son, 71 St. James's Street, S.W.

QUALIFIED Managing Assistant wanted immediately for new shop opening in a developing suburb of Cardiff; must be thoroughly experienced Dispenser and Counterman; apply giving full particulars, stating age and salary required, enclose photo and references; good post for suitable man. "Jesmond House," 31a Romilly Road, Barry.

QUALIFIED Assistant (single) required to take up duties towards the end of April; position offers excellent prospects to smart and ambitious man. 27/200, Office of this Paper.

QUALIFIED Junior required. Please state experience, capabilities, references and salary required, H. E. Matthews, Ltd., Mornington Crescent (next to Tube Station), N.W.1.

QUALIFIED Assistant, 30-35 years, required after Easter for W.C. district. State full particulars in first letter, when interview will be arranged. Apply 61/929, Office of this Paper.

QUALIFIED Assistant.—Excellent position offered in London suburb to young Pharmacist of integrity, with good Dispensing experience; unmarried preferred; must have unimpeachable references; salary £25, with bonus. State age and experience. "Pharmacist," Messrs. Evans Sons Lescher & Webb, Bartholomew Close, London, E.C.

QUALIFIED Managers.—Two wanted for manufacturing town in West Riding of Yorkshire, one for working-class district and the other for neglected business in good-class district; energetic and good Window Dressers required. Commission on profits offered. Send photo, salary, experience and references to 28/38, Office of this Paper.

SENIOR Qualified Assistant required, age about 30, for Dispensing and Counter; capable of taking charge in absence of proprietor; state experience and salary required. Gray's Cash Chemists, 55 Lower Addiscombe Road, Croydon.

SMART young Unqualified Assistant wanted immediately; good Dispenser and Counter, Photographic if possible, for a rising business; permanency for the right man (time off for study if required). Call or write, stating experience, age and photo, to Gordon Gadsdon, Chemist, 176 High St. Hounslow, W.

SMART Assistant required, with Optical qualification, F.S.M.C. or D.B.O.A.; gentlemanly; good appearance; Dispenser, Window-dresser, and well up in Photographic; full control of optical room, easy hours, and good salary to right man for permanency. Newton, Holly Bank, Yeovil.

SMART Junior required for Dispensing and Counter work; situation vacant Monday. Apply Bell & Co., 186 Essex Road, N.1.

WDEUX Pharmaciens Diplomés, Anglais ou Français; Veuillez les candidats donner le résumé de leurs expériences et la salaire voulu. 26/35, Office of this Paper.

WANTED, immediately, permanency, young, competent Assistant (male) for good-class Dispensing and Retail; reliable references essential; give full particulars in first letter of last two engagements, when at liberty, age, height, and salary (outdoors). James Hewitt, Chemist, Margate.

WANTED, after Easter, competent Junior for Dispensing, Retail and Photographic business; must be good Dispenser and well recommended. Baker & Son, Eastgate Pharmacy, Chichester.

WANTED, Junior Assistant, unqualified, for Counter. Give age, height, experience, salary required, and when disengaged. Wards, 12 Haymarket, Leicester.

WANTED, Unqualified Junior Assistant (immediately after Easter) for country Retail, Dispensing and Photographic business; one used to country preferred. Please send usual particulars and salary asked to Executors Edward Peck, East Dereham, Norfolk.

WANTED at once, Qualified Lady for N.H.I. and Counter work; indoors or out. Apply, stating age, salary required, experience, and enclose copies of testimonials and photograph (if possible) returnable, to Mrs. Flowerdew, Hill Top, West Bromwich.

WANTED, Qualified Assistant Manager male or female; male about 40 years; salary, £4 weekly; hours, 8.30 a.m. to 8 p.m., Saturday, 8.30 a.m. to 9 p.m.; no Sunday duty; permanency. Hora, 346 York Road, Wandsworth, S.W.18.

WANTED, Junior Assistant; facilities for studying. Please send full particulars. Owens, Chemist, Miles Platting, Manchester.

WANTED, Unqualified Assistant for a quick Cash Retail and Dispensing Business in the Thames Valley; knowledge of Photography essential. Apply, giving full particulars, age, salary required and experience, to 30/5, Office of this Paper.

WANTED, Qualified Dispenser and Book-keeper (female), out-door, by Doctor (Sussex); must be quick, accurate and neat in her work. State age, experience and salary to 30/20, Office of this Paper.

WANTED, Qualified Assistant for good-class Dispensing business. Apply, with full particulars, stating salary required, to A. E. Coverdale, Pharmaceutical Chemist, Worcester.

WANTED, Cover for good-class country business; must be good Salesman and Window-dresser; reference required; age 30-45; one with capital excellent prospects. 28/37, Office of this Paper.

WANTED, smart Qualified Pharmacist, to learn Surgical Instrument Salesmanship. Apply, 61/928, Office of this Paper.

WANTED, smart Junior Assistant. Apply, stating age, wage and experience, along with copies of testimonials, to A. L. Peters, 384 Harrogate Road, Leeds.

WHOLESALE.

CIASTEL'S Nice Olive Oil (as advertised in "Chemist and Druggist").—Soe Importers require Commission Representatives calling on Chemists in West and South-West England and South Wales. Write details of ground and other lines handled to Rayner & Co., Ltd., North Road, N.7.

COUNTER-HAND wanted by Wholesalers with experience of Wet Counter work. Apply Baiss Bros. & Co., Ltd., 174/6 Grange Road, S.E.1.

DRUGGISTS' Sundries and Toilet Soaps.—Additional Representative required by London House for London and suburbs; energetic man required with connection; first-class references essential; salary and commission. Write, with full particulars, 61/924, Office of this Paper.

FIRM of Manufacturing Chemists packing Toilet and Pharmaceutical lines, require first-class Representatives for the following areas: South Wales, Midlands, East Coast, and South Coast; expenses and commission or salary and commission; applicants must be capable men with experience and able to command business; the proposition is exceptional, and every assistance will be given to the right men. Reply to 25/10, Office of this Paper.

OPPORTUNITY for Salesmen already carrying one line; progressive Toilet and Perfume House require Representatives for S. London, and S.E. Coast, London north of Thames, Wales, West Country; good commission, small salary. 61/920, Office of this Paper.

PILL (hand) and Tablet Maker required; able to work out his own formula; state age, experience and wages expected. P.C.B. 64/17, Office of this Paper.

PROVINCIAL Wholesale Drug House require a Representative for London. State age, experience, and remuneration required, all of which will be held as strictly confidential. 61/927, Office of this Paper.

REPRESENTATIVE required for Imp Electrolytic Heel Pads, unrepresented in a few counties; liberal commission; fine side line for Traveller with good connections. Write full particulars, British Agencies, Gloucester Mansions, Cambridge Circus, London.

REPRESENTATIVE to call upon Chemists, etc., required immediately by well-known house; must be young, keen, and a knowledge of Chemists' requirements is desirable; must reside, or be prepared to reside, in Staffordshire, or an adjacent Western county. Apply, giving fullest particulars, including age, remuneration expected, previous experience, and when disengaged, to 61/926, Office of this Paper.

REQUIRED immediately, Chemist, qualified or otherwise, either sex; thoroughly experienced in manufacture of Pills and Galenicals. State experience, wages required, and enclose copies of references. 30/13, Office of this Paper.

SALESMAN required, calling upon chemists, to sell a line of Herbal Specialities on commission. Write, stating ground covered and other lines carried, to 25/39, Office of this Paper.

THERE is a vacancy with a Lancashire Drug House for a Qualified Assistant, possessing experience in the manufacture of Galenicals; state age, experience, and salary required. 61/918, Office of this Paper.

TRAVELLERS wanted, with Chemist's connection, to handle on commission basis two good selling lines always stocked; state ground being covered, with a view to appointment as district Representatives. Full particulars, in confidence, to P.C.B. 63/30, Office of this Paper.

WANTED, a thoroughly experienced Tablet Maker and Coater, Pearl, Chocolate and Sugar, Colours; full particulars, experience, salary expected, in first letter. P.C.B. 63/16, Office of this Paper.

WELL-EDUCATED gentleman, with good knowledge of Chemists' Sundries and Surgical, required by London Wholesale firm; state experience, age, connection, salary and commission expected; all correspondence will be treated as strictly confidential. 29/31, Office of this Paper.

YOUNG, energetic, capable Traveller required for London and Suburbs; essentially one with a good connection amongst the Medical Profession and high-class Chemists; applicants must give, in confidence, full particulars of previous experience, ground covered, salary, and travelling expenses expected, age, etc. 26/9, Office of this Paper.

[COLONIAL, INDIAN AND FOREIGN.]

INDIA.—Representative, single, qualified, age about 28-30, abstainer, wanted in few months' time by firm of Manufacturing Chemists to travel in India and the East; good prospects for capable and energetic man; applications from candidates with previous experience of the East of special interest, but this is not essential. Interviews can be arranged to meet candidate's convenience, salary required, etc., enclosing photograph if possible (to be returned) to 61/921, Office of this Paper.

WEST AFRICA.—Qualified Assistant required for Drug Department of large Trading Company in West Africa; single; age about 23/25; must have had some practical experience. Apply, giving full particulars, to P.C.B. 64/14, Office of this Paper.

SITUATIONS WANTED.

RETAIL.

[HOME.]

A.A.A.—LOCUM, experienced, disengaged, booking dates; moderate terms; abstainer. "Pharmacy," Messrs. Evans Sons Lescher & Webb, Ltd., Chemists, Liverpool.

A CAPABLE Assistant or Manager desires permanency (or Locum), experienced all branches; interest or purchase entertained; Drug Store not objected. 29/28, Office of this Paper.

A CAPABLE and energetic Pharmacist, with good knowledge of Optics, desires permanent position where his optical knowledge can be used and increased. 28/24, Office of this Paper.

A QUALIFIED, competent, energetic, and trustworthy Manager, Dispenser, Senior Assistant, or Representative with best London and provincial experience and faultless references now disengaged. Williams, 84 Bath Row, Birmingham.

A SMART Assistant, unqualified; excellent references; knowledge of Photography; age 23; 5 ft. 7 in. height. C/o Glendenning, Chemist, 36 Marina, St. Leonards.

A Manager or Senior (30), single, qualified; good all-round knowledge Optics, Photo, Wine and Spirit trade, etc.; interview; disengaged shortly. Vokins, Oxford Street, Guiseley, near Leeds.

A Branch Manager or Assistant; qualified, capable, experienced, young; excellent references; London. "Chemist," 14 Hestercombe Avenue, Fulham, S.W.

A APPRENTICESHIP required by young Lady, West-End Chemist, or District Railway route. "D." 32 Napoleon Road, East Twickenham.

A SSISTANT Dispenser (Lady) requires post; Half qualification; Brighton or within travelling distance; good worker. 8 Prestonville Road, Brighton.

A SSISTANT, qualified, all-round experience; London or suburbs; Dispensing, Counter and Photographic (outdoors). 28/13, Office of this Paper.

A SSISTANT, unqualified, middle-aged, tall, energetic, married; good references; would accept post as Manager of Drug Stores. P.C.B. 64/20, Office of this Paper.

A SSISTANT; 20; active; Dispensing, Counter, Photography; highest references; South Wales preferred. Edmunds, 7 Commercial Street, Gilfach, Bargod, Glam.

A SSISTANT (25), unqualified, desires change; Dispensing, Counter, etc.; nine years' experience. "Radix," 59 Cavenish Street, Grimsby.

A SSISTANT, unqualified (21 years, height 5 ft. 7 in.), disengaged Easter till September 30 (previous to going to college), desires post on East or South Coast (Devon preferred); quick and accurate Dispenser; 4 years' Photographic experience; highest reference. Punter, 59 Albert Street, Rugby.

BRANCH Manager; qualified, successful record, sound references; Photography; 16 years' experience; permanency desired. Richards, 12 High Road, Stamford Hill, N.15.

DISENGAGED 28th inst., Locum (or permanency London). Qualified Chemist; first-class experience, accurate and rapid Dispenser, accustomed brisk N.H.I. work. "Pharmacist," c/o Mr. Evans, Chemist, Queen's Gate Pharmacy, 32 Harrington Road, Queen's Gate, S.W. Telephone 2265 Kensington.

DISPENSER, quick and accurate, City and West-End experience; good references; persuasive Salesman, Photography, fluent French and Italian. "H. M. M." 30/8, Office of this Paper.

EASTERN Counties Preferred.—Qualified, 31, now branch manager, requires permanency; contemplating marriage; living accommodation advantage; Square trained; tall; abstainer; experienced Photography, Prescriber, Showcard Writer, Salesman, good Window-dresser.—29/21, Office of this Paper.

EXPERIENCED Locum, booking dates, disengaged Easter; moderate terms; abstainer; excellent references. "Chemicus," 131 Rawlinson Street, Barrow-in-Furness.

EXPERIENCED Assistant; single; Dispensing, Counter, Stock, Prescribing, etc.; Locum or permanency; abstainer, trustworthy. "Aspirin," 14 Chrysell Road, S.W.9.

F.S.M.C., F.I.O., Member J.C.Q.O. (24), tall, good side Chemist's business; good references; available week; any district. "Sales," 26/10, Office of this Paper.

JUNIOR (19), London, S.W. preferred. S. Smith, "The Pharmacy," Moreton-in-Marsh.

JUNIOR (20), well educated, good dispenser, requires position; preferably in Liverpool or district (not essential). 29/11, Office of this Paper.

LADY Dispenser Bookkeeper (Hall), 3 years' experience, requires post, London or Kent. Grant, Halfway Street, Sidcup.

LADY Assistant, unqualified; desires post in London; Counter, Photographic and Window-dressing; 8 years' experience. "M. T." 45 Drummond Street, Euston, N.W.1.

LADY Dispenser (qualified) requires post anywhere; excellent Hospital and Doctor's experience; moderate salary; book-keeping, typing. 65 Mayfair Avenue, Ilford, Essex.

LADY Assistant desires post; Counter, Photographic, Window-dressing; 7 years' experience. Davis, 299 Upper Richmond Road, E. Sheen.

LADY, 5½ years' experience, unqualified. desires post with Chemist; good knowledge of Dispensing; highest references; willing to come in April. Write, stating salary, etc., 28/39, Office of this Paper.

LADY desires post as Assistant with busy London Firm to gain experience; just completed four years' apprenticeship in first-class Irish House; sound knowledge of various branches. 28/31, Office of this Paper.

LADY Dispenser (Hall) seeks post with Doctor, Hospital or Institution; London or suburbs; good references. 121 Wood Street, Walthamstow, E.17.

LADY Dispenser (Hall) requires post, Doctor, Hospital, Institution; three years' experience; moderate salary. Allanson, Cavan Road, Redbourn, Herts.

LADY Pharmacist; eight years' experience; could fill temporary Hospital vacancy, May onwards; also open to hook Locums. 30/21, Office of this Paper.

LOCUM, qualified, now booking for season. Emily M. Wood, c/o Uriah Wood, Chemist, Arnold, Nottingham.

LOCUM, qualified, experienced, recommended by R.P.U., now booking for season. "W." 122 Edge Lane Drive, Liverpool.

LOCUM; good experience; Minor; elderly; capable and trustworthy; disengaged; references. P. Smith, 127 Capel Road, Forest Gate, E.7.

LOCUM or Relief Dispenser; qualified; disengaged; good references; Midlands preferred. Apply S., 27 Campbell Road, Stoke-on-Trent.

LOCUM, qualified, now booking engagements; North of Scotland. Jas. Forbes, 9 Bon-accord Lane, Aberdeen.

LOCUM, disengaged for Easter; first-class experience; good references. 28/130, Office of this Paper.

LOCUM; disengaged; all-round wide experience; highly recommended; open for Easter; terms moderate. "Chemicus," 239 Camherwell New Road, S.E.5

LOCUM, Qualified. Manager, reliable, disengaged April 2. "Locum," c/o Stiles, Chemist, Market Harborough.

LOCUM, disengaged, reliable, capable; full control. Jacques, 654 Middleton Road, Oldham.

MANAGER; experienced over 20 years; married, one child; temporary; permanency desirable; Photographic. 27/15, Office of this Paper.

MANAGER. Locum, or temporary; qualified; over 30 years' experience; hard worker; abstainer; would entertain succession if suitable; South Country preferred. Chemist, 60 Whittington Road, Bowes Park, N.20.

MANAGER or Locum (qualified); first-class experience in management of high-class Dispensing, Toilet and Photographic business; highest references; aged 28; married; W. or S.W. district preferred (country if house available); free now. Write, wire or call. Carter, 80 The Crescent, New Malden, S.W.

MANAGER (31), qualified, experienced, tactful, abstainer, excellent references, Photography, Analytical, seeks permanency in good-class business; Branch Manager or Senior; in view of marriage would appreciate house as part salary. "Chymist," 29/35, Office of this Paper.

PERMANENCY or Locum; unqualified; all-round experience; Dispensing, Agricultural, Photographic; abstainer; good references. "H." 61 Castle Street, Kendal.

PHARMACIST-OPTICIAN, 20 years' experience, successful Refractionist, Manager, desires change; Southern Counties or London; moderate salary; married, abstainer, well educated; Photography, Window-dresser, wide experience large N.H.I. Binying, Advertising, Stock-keeper; tactful, energetic; free shortly. "Pharmacist," 198 Princes Street, Yeovil.

QUALIFIED (24), managing branch, desires greater scope; excellent all-round experience; free immediately after Easter. Write "Ph.C." 26/11, Office of this Paper.

QUALIFIED, age 31, desires change; good Prescriber and Window-dresser; working and middle class. 27/21, Office of this Paper.

QUALIFIED M.P.S., good all-round experience, as Manager; London or near preferred succession entertained. "Capital," 29/23, Office of this Paper.

QUALIFIED, 40, disengaged, 15 years last situation, accurate Dispenser, with first-class, all-round experience, seeks permanency, with view to succession or not; Lancashire preferred. 29/15, Office of this Paper.

QUALIFIED (26), single, experienced good-class Dispensing, desires post in London or North Wales; moderate salary. "O. T." Llanfair T.H., Abergele, N.W.

QUALIFIED Locum (at present in Bournemouth) open for engagements; age 48; good business man; excellent references. 29/26, Office of this Paper.

QUALIFIED, 29, total abstainer, married, first-class Dispensing and Retail experience, smart, energetic, willing, conscientious, desires change; Yorkshire, West Riding preferred; permanency. 30/18, Office of this Paper.

SENIOR Assistant seeks engagement; 30; unqualified; first-class experience; thoroughly trustworthy and competent; busy seaside resort preferred; no multiple shops entertained; disengaged. Jay, c/o Davies, Chemist, Pembroke.

UNQUALIFIED Assistant (23), disengaged, requires position in Cardiff or near vicinity; Dispensing, quick Counter, Window-dressing and Photographic; references. "C. J. A." "Glaslyn," 11 Caeran Crescent, Newport, Mon.

YOUNG Lady; 8 years' experience Counter, Dispensing, Stock; Worcestershire or near. 27/24, Office of this Paper.

WHOLESALE.

A REPRESENTATIVE, calling on Chemists for a most reputable firm of Chemical and Tablet Manufacturers, on part expenses and commission, is desirous of representing another first-class firm on the same basis; S. and S.E. Coast. "W. H. S." 61/930, Office of this Paper.

ADVERTISER, with 9 years' experience in manufacture of Toilet preparations, desires situation with similar concern. P.C.B. 64/19, Office of this Paper.

BS.C., Chemistry and Physics, 26, War Service, desires post as Junior Chemist in Laboratory or Works; knowledge of French and German, also of telegraphy and telephony, and an expert wireless operator; willing to accept nominal salary until worth is proved. 2636/24, Office of this Paper.

EX-SERVICE W.O., single, 36, seeks position as Despatch Clerk, Storekeeper or in Showroom of Surgical Sundries Warehouse, or any position of trust; good references. 2614/24, Office of this Paper.

LIVERPOOL AND DISTRICT.—Traveller, capable Salesman, 39, desires post good drug, sundries, or specialty house; highest references; prepared to develop business; keen worker. 29/14, Office of this Paper.

M.P.S. (25), Import/Export business experience, seeks situation with wholesale house or merchants; fluent French. Apply, 29/20, Office of this Paper.

MANAGEMENT or Assistant Management.—Sales, Factory or town Representative London; trade, stores, shippers; any suitable post. Chemist highest standing and recommendations. 28/27, Office of this Paper.

REPRESENTATIVE (27) seeks re-engagement for London with established house, preferably proprietary; connection wholesale and retail; part or full time; commission preferred. P.C.B. 64/16, Office of this Paper.

REPRESENTATIVE open for engagement; offers valuable and live personal connection, extending over many years, including all Lancashire, Cheshire, North Wales, Isle of Man, Woodward, 35 Brownhill Road, Blackburn.

SALES Manager.—Advertiser, with long experience in organising successful selling campaigns and in the management of the staff, seeks connection with a strong firm marketing Toilets, Soaps, Perfumery, and Proprietary goods. "Dux," 27/19, Office of this Paper.

SALESMAN with sound connection amongst Wholesale and Retail Chemists, Perfumiers, and Stores in the Midlands for Toilets, Soaps, and Perfumery, wishes to represent first-class house. 27/190, Office of this Paper.

SPECIALITY Salesman has an opening for a good Proprietary; Midland Counties. "Ability," 97 Orchard Road, Erdington, Birmingham.

**To Chemists, Drapers, Jewellers, Outfitters,
and others.**

Removed for convenience of sale from Wembley,
also from West End and City.

112 CHARING CROSS ROAD, LONDON, W.C.1

(Near Tottenham Court Road Station).

The nearly new and

**WELL-MADE SHOP AND SHOW
ROOM FITTINGS AND FIXTURES**

(in mahogany and oak),

including

Expensive Exhibition Show Cases, ranges of Mirror-lined-back Wall Cases, High class Mahogany and Oak Quick-serving Fixtures, ditto Plate-glass Serving Counters with Trays, Mahogany Top Centre and Side Counters, Millinery Counters, Haberdashery Cabinets, Cheval Glasses, Expensive Millinery Back Fittings, Eight Plate-glass Mantle, Costume and Blouse Cases, Counter Cases with Mirror Flaps, 14 All-Glass and 6 ditto Fitted Trays, 12 Centre and Doorway Cases, Cashiers' Enclosures, 30 Cash Tills, 6 National Cash Registers, 30 Framed Mirrors, large quantity of Oak Show Stands, Pedestals, Costume and Blouse Stands, Bentwood and other Chairs, 4 Fire-resisting Safes, 4 Upright Grand Pianos by Gresham & Co., London,

OFFICE FURNITURE,

including

Oak and Mahogany Desks, Revolving and other Chairs, Filing Cabinets, 4 Typewriters, 30 Circular Mahogany Tables. Large quantity of Plate-glass Shelves,

Also a quantity of

HOUSEHOLD FURNITURE,

Miscellaneous Drapery and other Goods,

Which will be **SOLD** by **AUCTION** by

BEAVAN & BEAVAN, F.A.I.

at their **SALE ROOMS**, as above, on

Thursday, April 2, 1925,

at one o'clock precisely.

On view day prior and morning of sale.

Catalogues of the Auctioneers, at their Offices,

125 PALL MALL, LONDON, S.W.1

Telephone GERRARD 2987.

ALL PUBLIC PHARMACISTS

should join at once

THE NATIONAL DRUG & CHEMICAL UNION

(incorporating the National Association of Chemists' Assistants)

BENEFITS : Trade Protection—Legal Aid—Unemployment

Benefit—Free Use of Employment Bureau.

Write for particulars to—ARTHUR J. GILLIAN, Gen. Sec.

149 Newington Causeway, LONDON, S.E.1

WELL-KNOWN gentleman, excellent connection, seeks re-engagement as Representative with good drug or sundries house, 28/20, Office of this Paper.

WORKS CHEMIST (28), single; sound technical training; diploma in Chemistry, some French and German; 3 years' experience in Oils, Fats and Waxes, Plant supervision. 456/25, Office of this Paper.

YOUNG man, well experienced in Essential Oil industry, also Perfumery, Fine Chemicals and Travelling; seeks progressive situation with Wholesale house. "C." 803 Old Kent Road, S.E.15.

[COLONIAL, INDIAN AND FOREIGN.]

QUALIFIED Chemist-Optician seeks position Overseas; view to purchase share later; capital, £1,500; healthy climate. "F.S.M.C.," 19/39, Office of this Paper.

MISCELLANEOUS.

CHEMIST'S Fittings (second-hand), also new.—Ranges of Drug Drawers, Dispensing Screens, Glass-fronted Counters, Wallcases, Centre Cases, and All Glass Counters; Counter Cash Tills from 25s. The "Kwik-Sale" Case, made specially for Chemists' Counters, with slope front and mirror sliding doors at back, 3 ft. long, price £5 10s. D. MATTHEWS & SON, Chemist Fitters, 14 and 16 Manchester Street, Liverpool.

SECOND-HAND CHEMISTS' FITTINGS.—We have an exceptionally fine selection of these in all sizes; prices are right, and goods are in first-class condition; we shall be pleased to supply particulars and prices. Call or write, RUDDUCK & CO., 262 Old Street, London, E.C.2.

£144. SET of complete mahogany Shop Fittings, 7 ft. hand-some Dispensing Screen, 7 ft. Wall Case, 12 ft. Counter with cases in front, plate-glass Counter Case, two nests of Counter Drawers, 12 ft. Drug Fitting, Perfume Case and Desk, all-glass Counter; can easily be adapted. PHILIP JOSEPHS & SONS, LTD., 93 Old Street, London, E.C.1.

FIVE mahogany plate-glass Showcases for Sale, fitted with shelves and doors, 5 ft. 6 in. x 8 ft. 4 in., 15 ft. 4 in. x 8 ft. 4 in., 8 ft. 4 in. x 8 ft. 4 in., 14 ft. 6 in. x 8 ft. 4 in. £275; also one case with convex front, 11 ft. wide x 9 ft. 6 in. high, £75. Can send photo, but prefer prospective purchasers to call. Maison Foster, 199 Sloane Street, S.W.1.

LIMITED Companies formed not only for Chemists and Opticians, but for any trade. Established 1905. Books, seal, etc., are included in quotation. Advice free. A. B. SLACK, 15 Christ Chnrch Avenue, West Didsbury, Manchester.

100 LBS. OI. Menth. Pip., good quality American, as imported; 1 lb. sample, 62s., cash with order.—R. Gibbons & Co., Tablet Manufacturers, 1 Birkbeck Road, Kingsland, London, E.8.

EXCHANGE COLUMN.

FOR DISPOSAL.

5 x 10 GALLON SHOP-WINDOW CARBOYS for Sale. Apply Glaisher & Kemp, 10 Castle Square, Brighton. GLEDHILL TILL, as good as new, with 2 oz. till rolls. Best offer to Cane, 10 Gloucester Road, South Kensington.

WANTED.

ARMY AND NAVY STRETCHERS, in good condition. 29/6, Office of this Paper.

FIFTEEN SHILLING REDUCINE. Send offer to Harold Skyrme, Wellington Place, Hastings.

CHEMIST'S SIGHT-TESTING APPARATUS, second-hand. Murphy Chemist, Macroom, Co. Cork.

PHARMACEUTICAL Books wanted; send priced list. Gower, Bookseller, 41 Voltaire Road, Clapham.

CHEAP OR SECOND-HAND DISPENSING SCREEN, PERFUME CASE, COUNTER CASE; any wood. Evans, Pharmacy, Penrhynceiber, Glamorganshire.

SHOP FIXTURES, New or Second-hand, for new premises. Lancashire. 28/23, Office of this Paper.

FOUR SMALL CARBOYS (swan-necked preferred); must be perfect; also two Specie Jars. Cattell's, Chemists, Sutton Coldfield.

C. & D. for weeks ending July 29, 1911, September 25, 1914, and October 10, 1914 (Coloured Supplement). Reply 61/922, Office of this Paper.

A NEW CONTAINER FOR THE POPULAR **MORNY** COMPLEXION POWDERS

“CHAMINADE,” “JUNE ROSES,” & “MYSTÉRIEUSE”

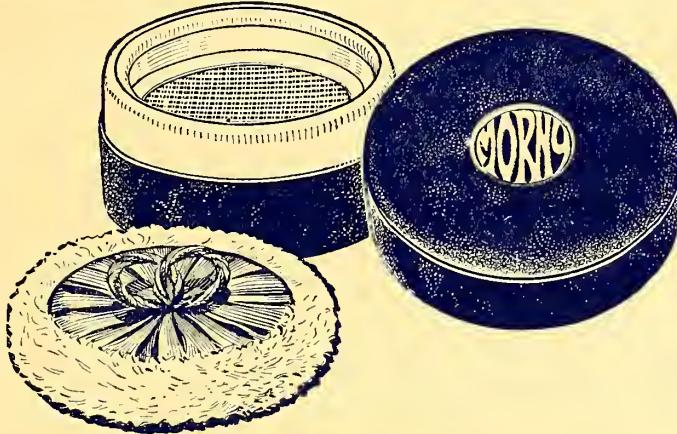
MORNY FRÈRES have pleasure in bringing to the notice of the Retail Trade the patent Unspillable Sifter Powder Box in two sizes, each fitted with mirror and puff, which may now be obtained filled with either of the above Morny Complexion Powders.

Small size for
the handbag
(1½ in.
diam.)

Retail 2/6.

Wholesale
20/- dozen.

In Elegant
Counter
Display
Outers
containing
6 or 12.



Large size
for travelling
(2½ in.
diam.)

Retail 3/6.

Wholesale
28/- dozen.

In Elegant
Counter
Display
Outers
containing
6.

The Morny Sifter Powder Box has the following advantages over all other Sifter Powder Boxes:—

- (1) The contents are absolutely unspillable.
- (2) The mirror does not become clouded with powder.
- (3) The supply of Powder is regulated evenly over the whole surface of the puff.

Introductory sales of this line to your most fastidious lady clients can be confidently expected to produce regular repeat orders.

The Morny Fine Perfumery Products are an adornment to the Highest Class Retail Establishment and attract the best type of customer.

EXTENSIVELY ADVERTISED IN THE PRESS.

Artistic Showcards and Descriptive Pamphlets on request.

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LIMITED, **6** NEW BURLINGTON
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In Boxes of six
Dainty Tubes.
Retail 2/9

WRITE
FOR
COMPLETE SET
OF AVAILABLE
DESIGNS



FRAGRANT
REFRESHING

In Artistic Frosted
Stoppered Bottles
Retail 2/6

Free LINE BLOCKS

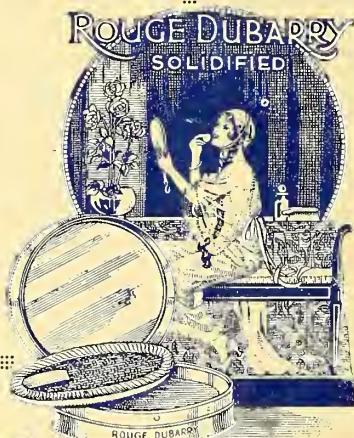
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Retail 1/-

A NOMINAL CHARGE
of 2/6
per block is made,
which amount is
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For the Handbag, in Gilt Vanity
Box with Puff and Mirror.
Retail 1/6

